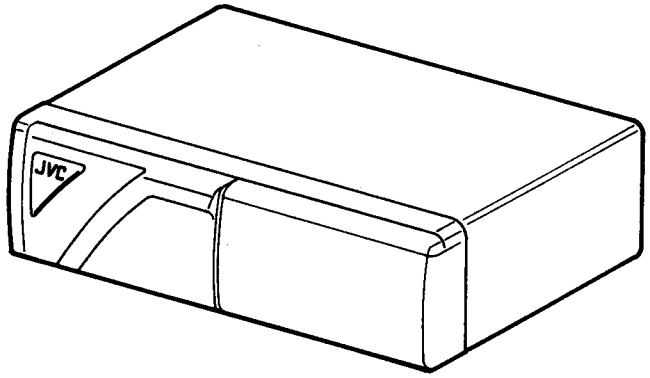
JVC

SERVICE MANUAL

COMPACT DISC AUTOMATIC CHANGER

XL-MK500 B/C/E/G/J



COMPACT disc DIGITAL AUDIO

This CD Automatic Changer needs an additional changer controller for operation.
Use KS-RM6 of a JVC changer controller or JVC car receiver with controller function as a changer controller.

Area suffix	
B	U.K.
C	Canada
E	Continental Europe
G	W. Germany
J	U.S.A.

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No. 49151
February 1992

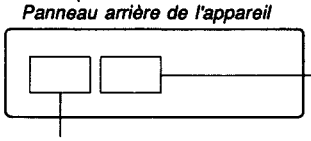
1 Safty Precautions

IMPORTANT FOR LASER PRODUCTS (For U.S.A. only)

1. CLASS 1 LASER PRODUCT
2. DANGER: Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION: Do not open the top cover. There are no user serviceable parts inside the unit; leave all servicing to qualified service personnel.
4. CAUTION: The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when unloading the CD magazine and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION: Use of controls of adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
6. CAUTION: The laser is able to function, if safety switches are out of function. The laser light is invisible, avoid exposure, do not disassemble the laser unit, but replace the complete unit.

IDENTIFICATION LABEL AND CERTIFICATION LABEL

Rear panel of the unit
Panel posterior de la unidad
Panneau arrière de l'appareil



NAME/RATING PLATE

US JVC CORP. 41 SLATER DRIVE
ELMWOOD PARK, N.J. 07407
MANUFACTURED AT *2
MADE IN JAPAN

Product complies with DHHS Rules 21 CFR Subchapter J in effect at date of manufacture.
MANUFACTURED
*1

Notes:
*1 The date of manufacture.
*2 The ID code of manufacturing plant.

INFORMATION (For U.S.A.)

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna;
Relocate this equipment with respect to the receiver;
Move this equipment away from the receiver;
Plug this equipment into a different outlet so that this equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer, or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

INFORMATION (FOR CANADA) RENSEIGNEMENT (POUR CANADA)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

L'interférence radioélectrique générée par cet appareil numérique de Type B ne dépasse pas les limites énoncées dans le réglement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

REPRODUCTION OF LABELS AND THEIR LOCATION (For B/E/G only)

PRECAUTIONS

1. CLASS 1 LASER PRODUCT
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3. CAUTION: Do not open the top cover. There are no user serviceable parts inside the unit; leave all servicing to qualified service personnel.
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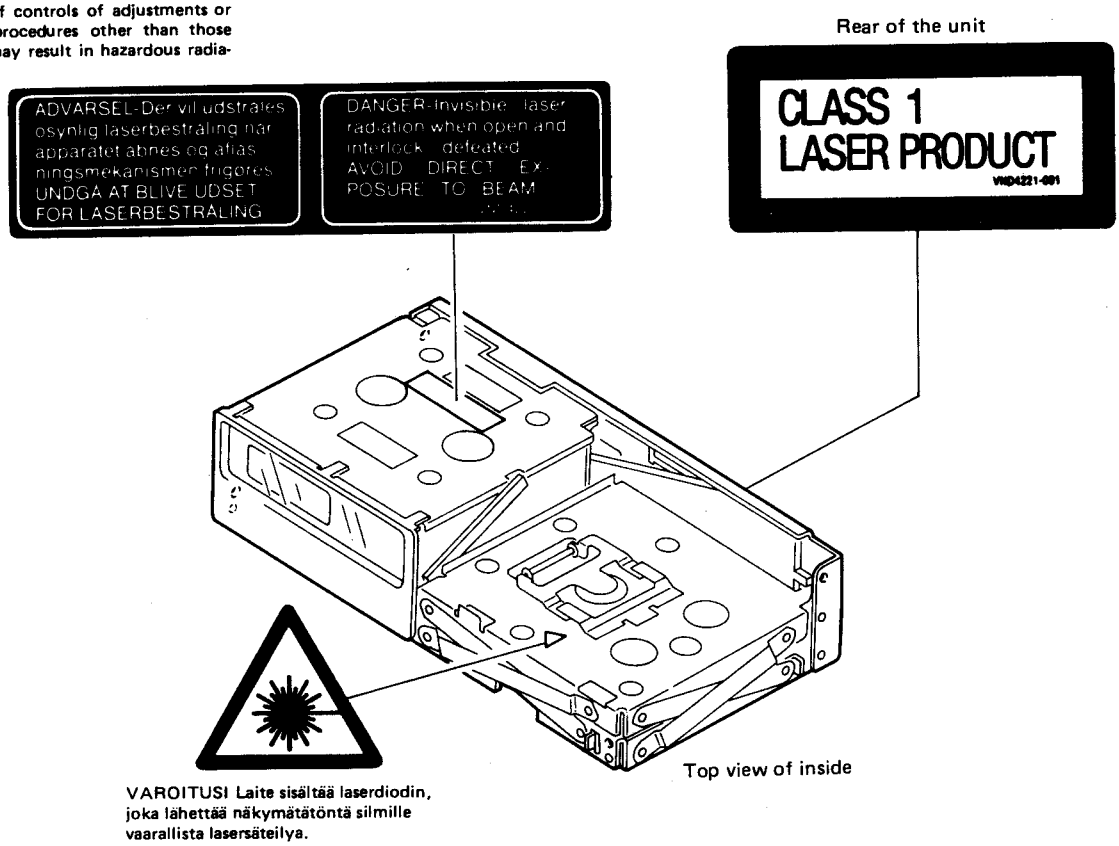
5. CAUTION: Use of controls of adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.


Rear of the unit
ADVARSEL-Der vil udstråles osynlig laserbestråling når apparatet åbnes og aflåsningsmekanismen frigøres UNDGÅ AT BLIVE UDSAT FOR LASERBESTRÅLING
DANGER-Invisible laser radiation when open and interlock defeated AVOID DIRECT EXPOSURE TO BEAM
CLASS 1 LASER PRODUCT
Top view of inside

VAROITUSI Laite sisältää laserdiodin, joka lähettää näkymätätöntä silmille vaarallista lasersäteilya.

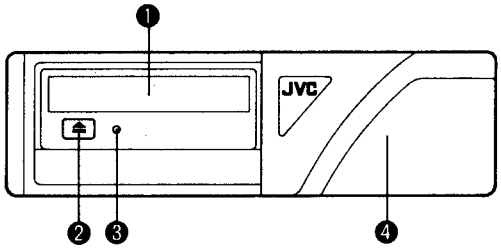
2 Instruction Book (Extruction)

SPECIFICATIONS

CD CHANGER SECTION
Frequency response: 5 — 20,000 Hz
Dynamic range: 95 dB
S/N ratio: 98 dB
Distortion: 0.005 %
Wow & flutter: Less than measurable limit
GENERAL
Power requirement
Operating voltage: DC 14.4 V (11 V — 16 V Allowable)
Grounding system: Negative ground
Dimensions (W x H x D):
312 x 85 x 198 mm
(12-5/16" x 3-3/8" x 7-13/16")
Gross Weight: 5.2 kg (11.5 lbs)

■ Location of Controls

LOCATION OF CONTROLS



1. CD magazine slot
2. Eject button (⏏)
3. Microcomputer reset button (RESET)
4. Door

HANDLING COMPACT DISCS AND MAGAZINES

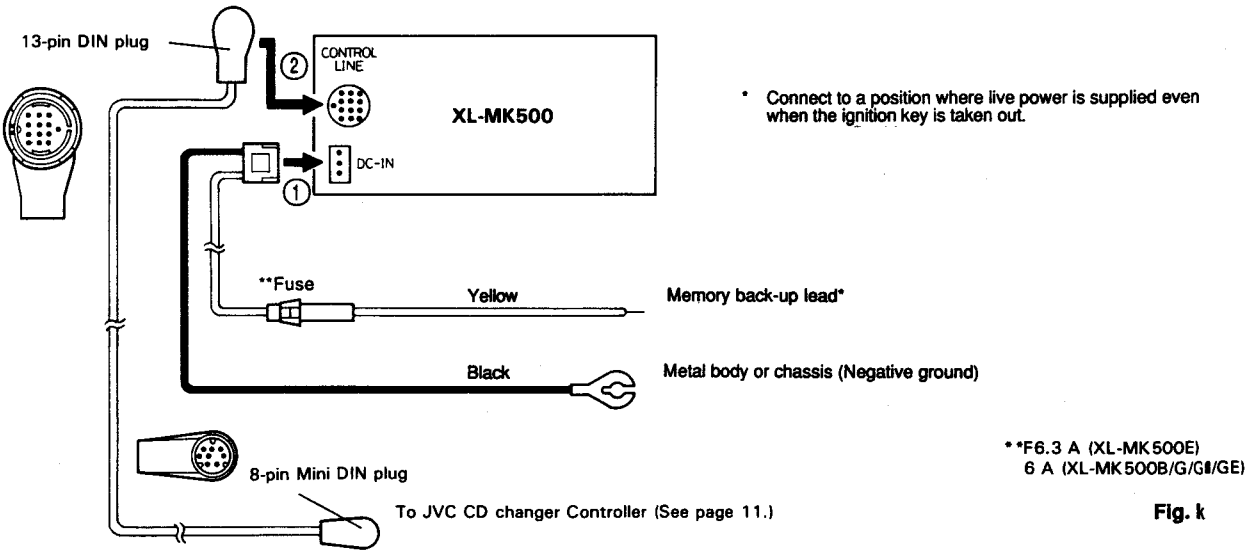
How to handle CDs

- Use compact discs with the mark shown.

COMPACT disc DIGITAL AUDIO

- Do not touch the recorded surface of the disc (reflective side, opposite to the label) when handling the discs.

■ Connections



* Connect to a position where live power is supplied even when the ignition key is taken out.

**F6.3 A (XL-MK500E)
6 A (XL-MK500B/G/GII/GE)

Fig. k

Note:
This unit is designed for 12 volts DC, Negative Ground. If your vehicle does not have a 12 volt negative ground electrical system, you need a voltage inverter which can be bought from a JVC "IN-CAR ENTERTAINMENT" dealer.

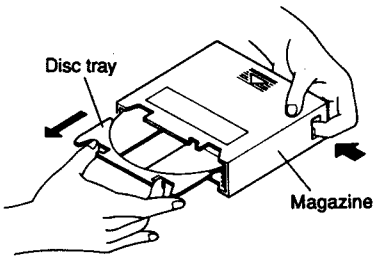
- Be sure to ground this unit to the car's chassis.

■ How to Load Magazine

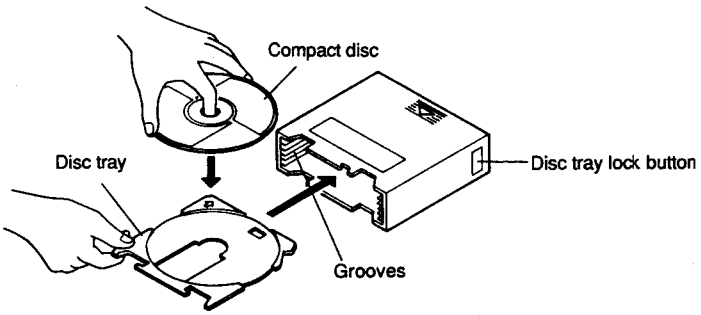
- Please purchase the special XC-M73 magazine for use with 8 cm (3-3/16") CD singles.

• How to load discs

1. Disc trays can be removed from magazines. Depress the disc tray lock button, and slide the disc tray partly out.



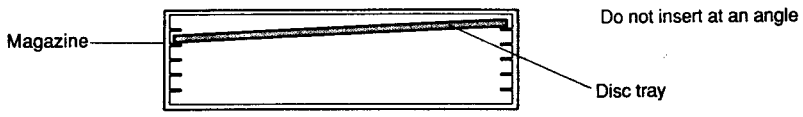
2. Pull the disc tray completely out of the magazine and place a CD on it with its label side up.



3. Line up the disc tray with the grooves in the magazine, and push the disc tray all the way in. Never bend or force the disc tray into the magazine. It is not necessary to depress the disc tray lock button when inserting the disc tray.

Notes:

- If a disc tray is inserted at an angle, it may cause a malfunction.



- There are openings in the disc trays through which signals are read from the discs. These openings leave part of the shiny side of the disc exposed. Be careful not to touch the shiny surface of the disc.
- It is not possible to play a compact disc if it is installed upside down.

3 Removal of Main Parts

■ **Top cover** (See Fig. 3-1.)

1. Remove nine screws ①, ② and ③ from the both sides and the rear of the set.
2. Expand the lower parts of the top cover outwards and raise it up by the rear part.

■ **Front panel ass'y**

1. Take off the top cover.
2. Unhook the front panel from the both side brackets by pushing them inwards and pull the front panel by the upper side to remove it. (See Fig. 3-2)
   (Since the front panel and the bottom cover are hinged by pawls of the bottom cover, turn the front panel pivoting the pawls.)

■ **Rear panel**

1. Take off the top cover.
2. Remove three screws ⑤ retaining the rear panel.
3. Disconnect the connectors CP901 and CN601 from the jack board installed vertically in the rear side.
4. Remove the rear panel while lifting it up.

■ **Bottom cover**

1. For removing the bottom cover directly, remove four screws ② retaining the top cover and the both side covers.
2. Remove three screws ⑤ retaining the bottom cover to the rear panel.
3. Remove four screws ④ retaining the bottom cover from the bottom side.
4. Raise the bottom cover by the rear side.

■ **Main board ass'y**

1. Remove the bottom ass'y.
2. Remove five screws ⑥ retaining the main board ass'y.
3. Remove two screws ⑦ retaining the transistors, then, the main board is released.
4. If the above procedure is not enough for servicing, remove a screw ② retaining the main board ass'y to the rear panel, and raise the board by the rear-sided portion to draw it out.

■ **Mechanism ass'y (with main board together)**

1. Remove screws ① through ⑤, and then the mechanism ass'y can be removed together with the side bracket ass'y.
2. Remove seven screws ⑥ and ⑦ retaining the main board and raise it by the rear-sided portion to remove it.

■ **Slide door**

1. Open the cassette door half. Then, while pressing the upper and lower edges of the front panel nearby the side of the opened door, slide the door in the direction to close it until it can be removed.
   (* When reassembling the door, fit it into the front panel by pressing it regardless of the position until it clicks.)

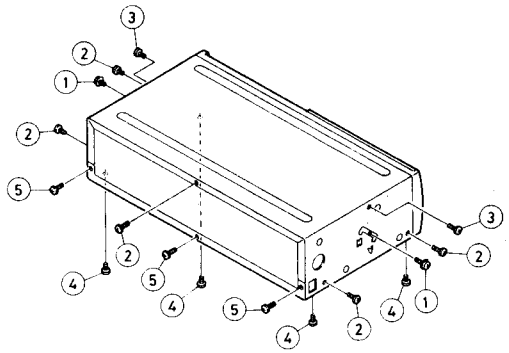
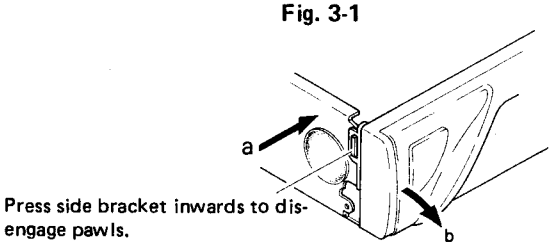


Fig. 3-1



Press side bracket inwards to disengage pawls.

Tilt front panel to detach it.

Fig. 3-2

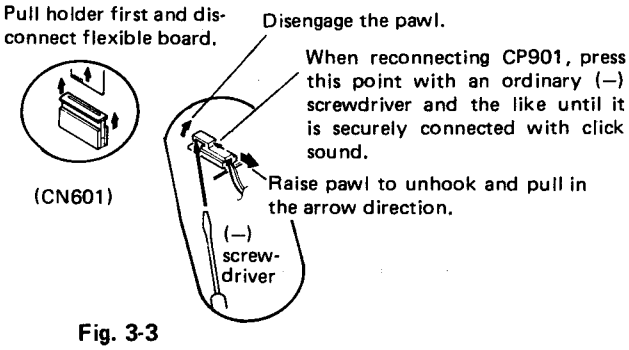

Pull holder first and disconnect flexible board.
Disengage the pawl.
When reconnecting CP901, press this point with an ordinary (–) screwdriver and the like until it is securely connected with click sound.
Raise pawl to unhook and pull in the arrow direction.
(CN601)
(–) screwdriver

Fig. 3-3

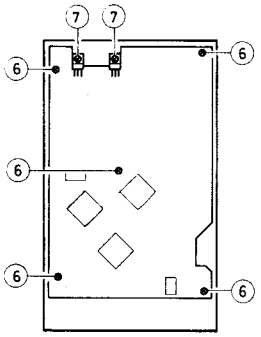
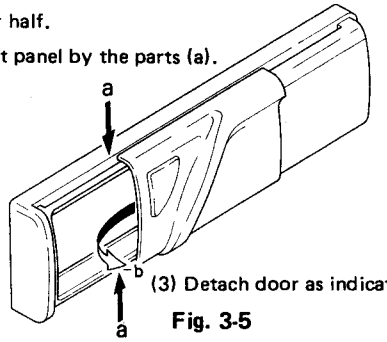


Fig. 3-4

(1) Open door half.

(2) Presss front panel by the parts (a).



(3) Detach door as indicated by (b).

Fig. 3-5

■ **Left side bracket ass'y**
Remove two screws ⑨ from the two points illustrated.

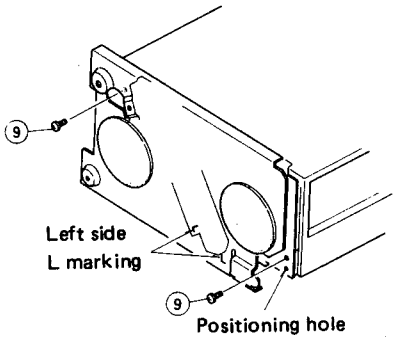


Fig. 3-6

■ **Right side bracket ass'y**
Remove two screws ⑧ retaining the side bracket ass'y.

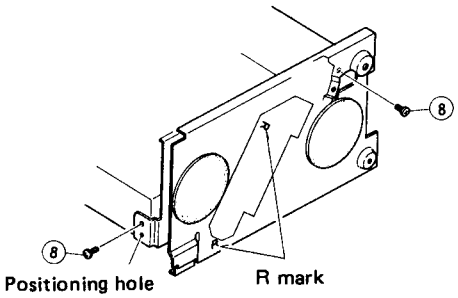


Fig. 3-7

■ **Inner panel**
1. From the front side remove two screws ⑩ retaining the inner panel.
2. Disengage the inner panel from two pawls Ⓑ and remove it to the front side.
3. Remove the screw retaining the eject/reset board ass'y.

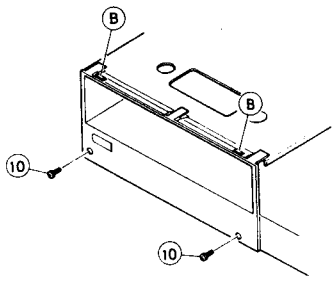


Fig. 3-8

■ **Pickup unit**
1. Remove the main board and remove a screw ⑪ (with a washer) retaining the pickup shaft.
2. Slightly twist the pickup toward the motor to disengage it by the point Ⓐ.
3. Detach the pickup unit.

■ **Feed motor ass'y**
1. Remove two screws ⑫ retaining the feed motor ass'y.
2. Remove two screws retaining the motor bracket and detach the motor ass'y.

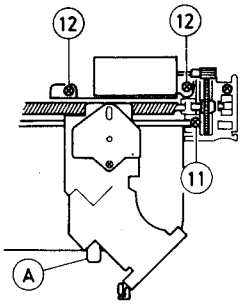


Fig. 3-9

■ **CD mechanism unit**
Remove four screws ⑬ retaining the CD mechanism unit at the four corners.

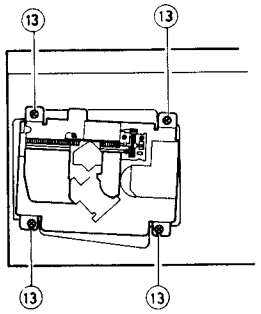


Fig. 3-10

■ **Side chassis (Rear chassis viewed from magazine slot)**
Remove a screw ⑯ retaining the side chassis at the upper side and two screws ⑰ retaining it at the lower side.

■ **CD magazine housing unit**
1. Remove a screw ⑯ retaining the CD magazine housing unit in the center of the front side.
2. Lift the unit up and to the front side, and disengage the left pawl.
3. The unit can be removed as the protect lever stands uprightly.

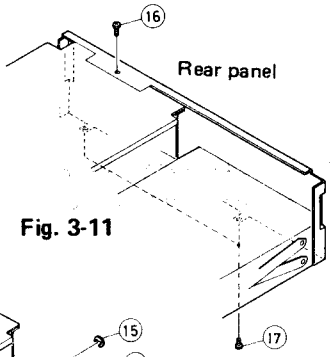


Fig. 3-11

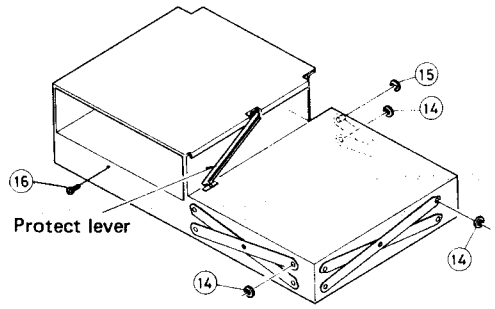


Fig. 3-12

■ **Lifter unit**
1. Detach the lift arms from the three sides. (Remove the C-rings ⑭ and the E-ring ⑮.)
2. Lift the lifter unit and detach every lift arm. At this time the hook and loading arm that put in a CD are removed together with.
   a) The hook slides toward the magazine side and comes off.
   b) When the loading arm is in the standing position, it is detached from the chassis by the points (1) and (2).

● **For reassembling, it is recommended to do it in the following order.**
Lifter unit → Loading arm and hook → CD magazine unit.

For reassembling the loading arm, see Fig. 3-13.

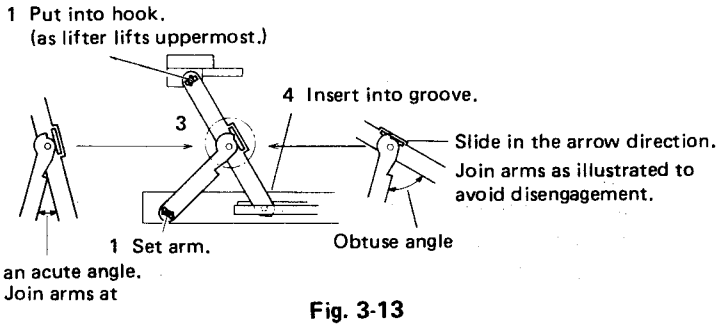


Fig. 3-13

■ **Side bracket ass'y**
1. Remove two screws retaining the suspension.
2. Remove a spring Ⓚ.
3. Move the slide lever leftwards and put the right end of the slide lever into the side bracket first (as illustrated in Fig. 3-15 (a) and (b)).
4. Remove the springs Ⓓ and Ⓔ of the slide lever.

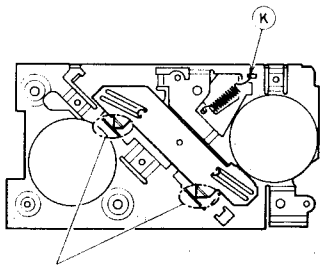


Fig. 3-14

● **How to reassemble:**
1. Engage three springs to the mechanism bracket by each oval hook.
2. Engage two springs Ⓓ and Ⓔ with the slide lever by each round hook.
3. Put the slide lever into the side bracket.
4. Engage the spring Ⓚ.
5. Secure the suspension with two screws.

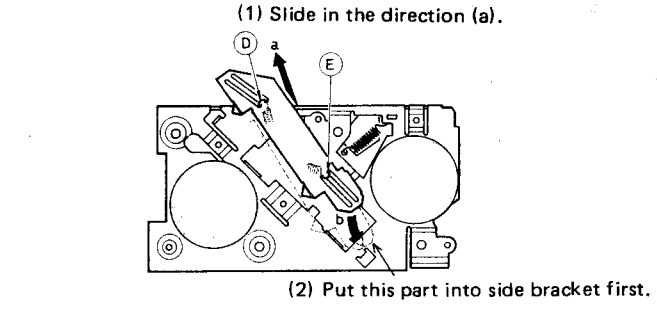
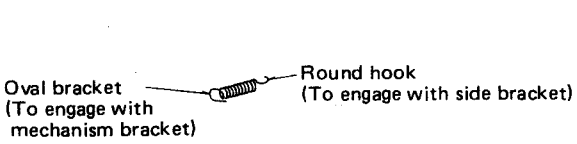


Fig. 3-15

[Example - Left mechanism bracket]



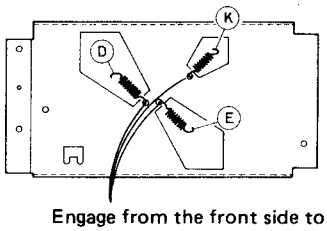


Fig. 3-16

4 Main Adjustments

■ Location of Switches

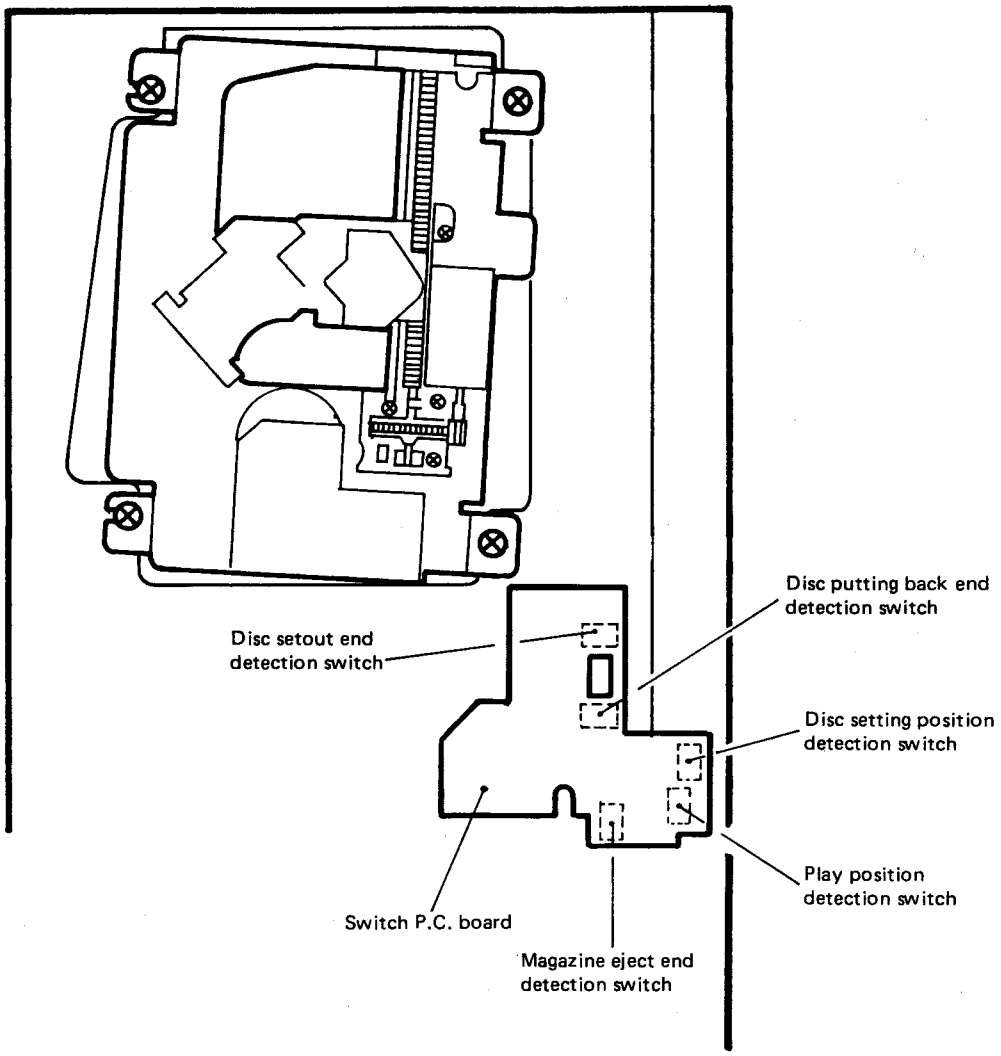


Fig. 4-1

(1) Test equipment and measuring instruments required for adjustment

- Noise meter (flat mode/filter mode)
- Oscilloscope
- Jitter meter
- Offset meter
- Distortion meter
- Mechanism adjustment jigs and tools (for parallel)
  Magazine
  Eccentric driver (for fine adjustment of lifter horizontal)
  Height adjusting jig (for height of 3rd magazine)
- Filters, shorting jumper wires, etc.

(2) Test disc

- CTS-1000
- CRG-1106C

(3) Electrical parts

After board repair and pickup replacement, the following adjustment and inspection are required.

- After replacement of RF IC : Focus offset adjustment
- After replacement of pickup: Tracking offset adjustment
  Jitter inspection

■ Location of Adjustments

■ Bottom side

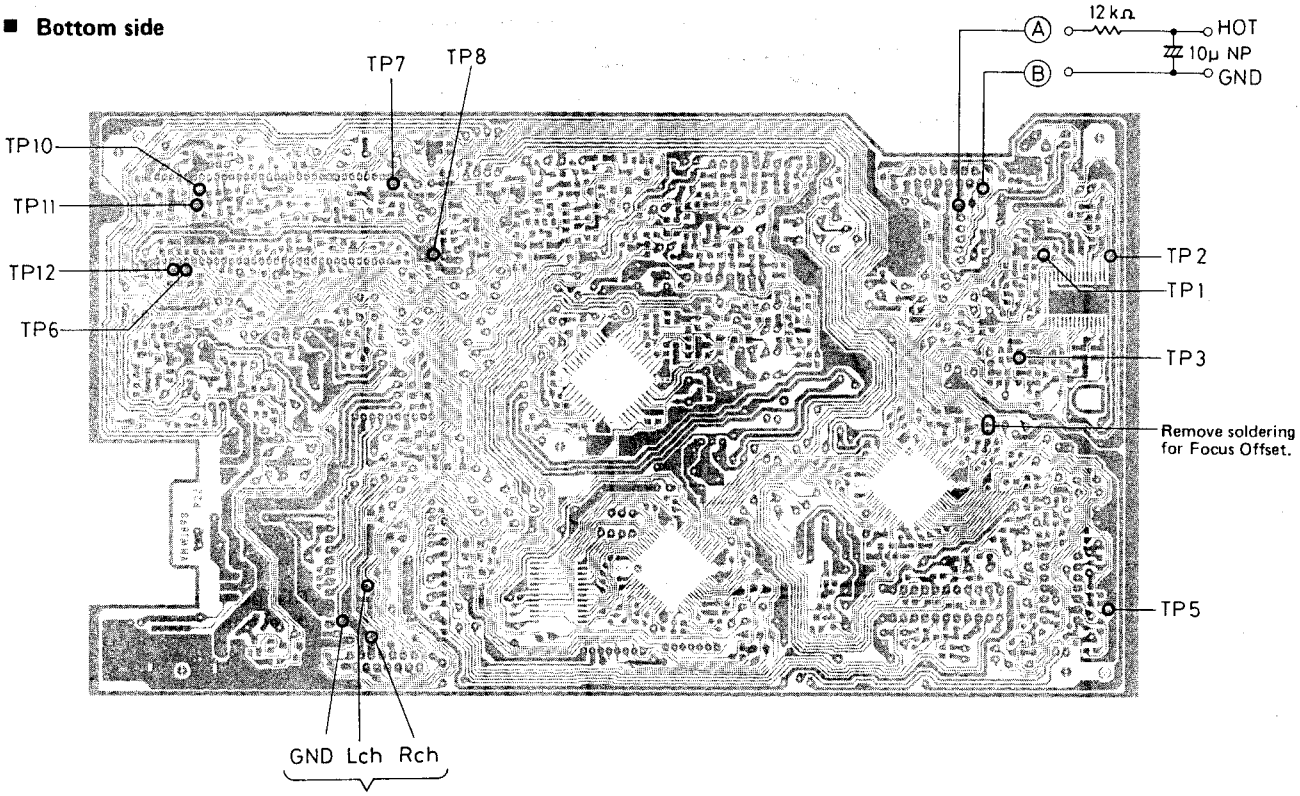


Fig. 4-2

■ Top side

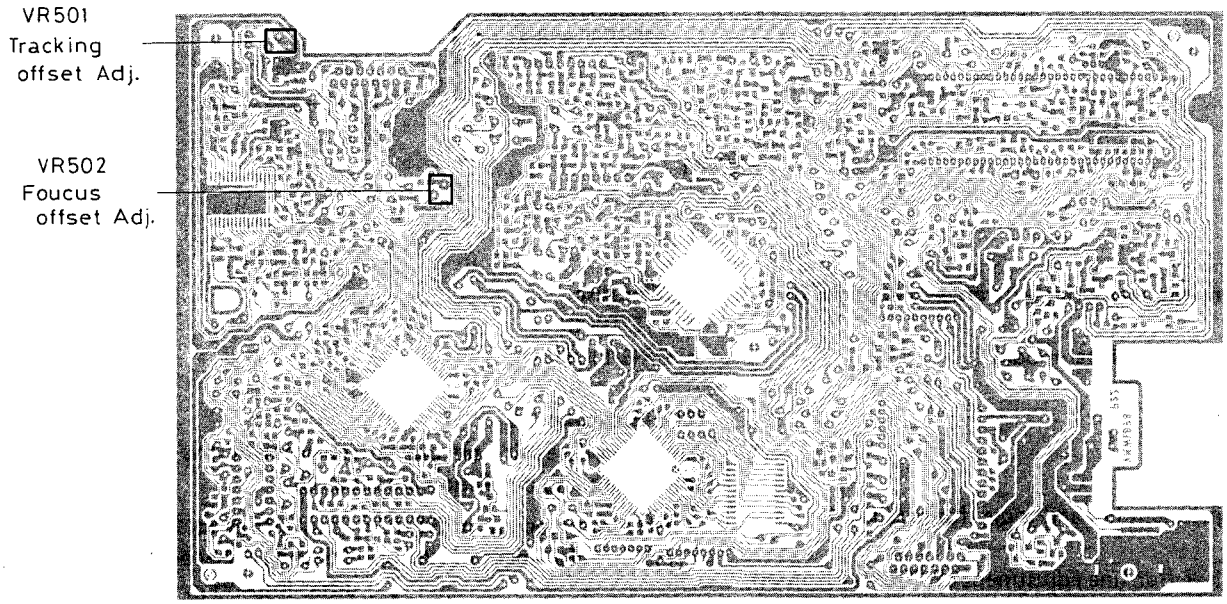
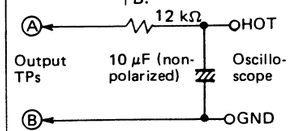
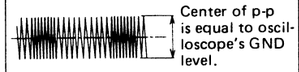


Fig. 4-3

■ Electrical Adjustment

Item	Remark	Adjusting point	Standard value	Adjustment procedure
1. Focus offset adj.	Replacement of IC501 (RF IC, MC13501-M) needs this adjustment.	VR502 	No level difference between potentials of test points A and B.	1) Disconnect all connectors except CP901 (power supply). 2) Remove soldering between IC501 pin 20 and IC531 pin 12 to close the circuit (to cut off "SEL" signal). After measurement, resolder between them. 3) Connect oscilloscope to board output TP (A & B) with the adjustment filter between them. 4) Adjust VR502 so that output waveform (DC) is equal to the GND level of the oscilloscope. (Adjust level difference between test points A and B to be zero.)
2. Tracking offset adj.	This adjustment is necessary after replacement of CD mechanism ass'y or pickup, or repair of board.	VR501 (Main board) 	Adjust waveform so that its center level is equal to oscilloscope's GND level (or offset meter reads "0").	1) Connect TP6 and pin 32 of IC601. 2) Connect oscilloscope to TP3 (with oscilloscope's GND probe connected to TP2). 3) Connect test leader to TP5 and further connect it to oscilloscope's GND as the track No. 1 of CTS-1000 test disc is being played. 4) As a result of the above steps 1) through 3), tracking error signal is generated. Adjust the center of p-p level of output waveform to be equal to oscilloscope's GND level by VR501 (or, if offset meter is used, adjust so that the meter reads "0").
3. Jitter check	Necessary after replacement of CD mechanism ass'y or pick-up.		Peak value: 25 ns or under p-p value: 1.1 V ± 0.2 V	1) Connect noise meter (flat mode) to TP1 (HOT) and TP2 (GND). 2) Play track No. 1 of CTS-1000 disc and confirm that p-p value and peak value are as specified.
4. Output voltage check			1.5 ± 0.3 V	1) Connect valve voltmeter to output TP. 2) Play track No. 1 of CTS-1000 disc and confirm that output voltage is as specified.
5. Distortion check			Less than 0.015% (with 20 kHz or 30 kHz LPF used)	1) Connect distortion meter to output TP. 2) Play track No. 1 of CTS-1000 disc and confirm that measured value is as specified.
6. Frequency response			32 Hz : 0 ± 2 dB 16 kHz: 0 ± 2 dB	1) Connect noise meter (flat mode) and oscilloscope to output TP. 2) Play CRG-1106C test disc and measure distortions of the track No. 18-2 (32 Hz) and No. 18-13 (16 kHz) to the level of track No. 1 (1 kHz).
7. Channel separation check			More than 55 dB (with 20 kHz or 30 kHz LPF used)	1) Connect noise meter (flat mode) to output TP. 2) Play track No. 5 of CTS-1000 test disc and measure output leakage to R-ch to confirm level difference of 55 dB or more. 3) Play track No. 7 of CTS-1000 and measure output leakage to L-ch to confirm kevel difference of 55 dB or more.
8. S/N ratio check			More than 86 dB	1) Connect noise meter (JISA) to output terminal. 2) Play track No. 1 and No. 8 of CTS-1000 disc to confirm that level difference between them is within −20 dB ± 3 dB.
9. Emphasis check			Within −20 ± 3 dB	1) Connect noise meter (flat mode) to output terminal. 2) Confirm that playback level difference between track No. 1 and track No. 11 of CTS-1000 disc is within −20 dB ± 3 dB.
10. Dynamic range check			More than 85 dB	1) Connect distortion meter to output terminal. 2) Play track No. 10 of CRG-1106C disc and confirm that dB value read by distortion meter (with A-curve filter) plus 40 dB coincides with the specified value. (When track No. 11 is played, add 20 dB to measured value for this check. Track No. 11 is to use for track No. 10 if it is improper for measurement.)

5 Block Diagram

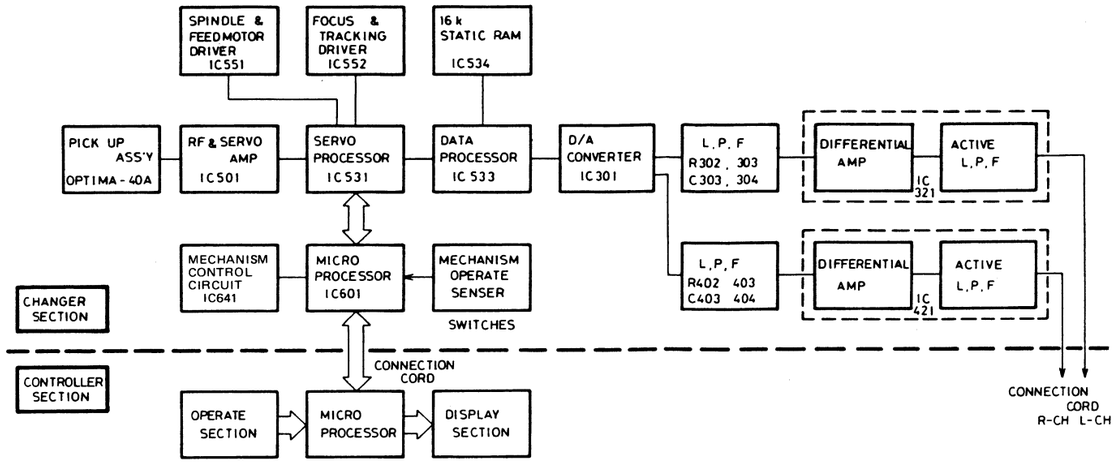


Fig. 5-1

6 Standard Schematic Diagram and P.C. Board

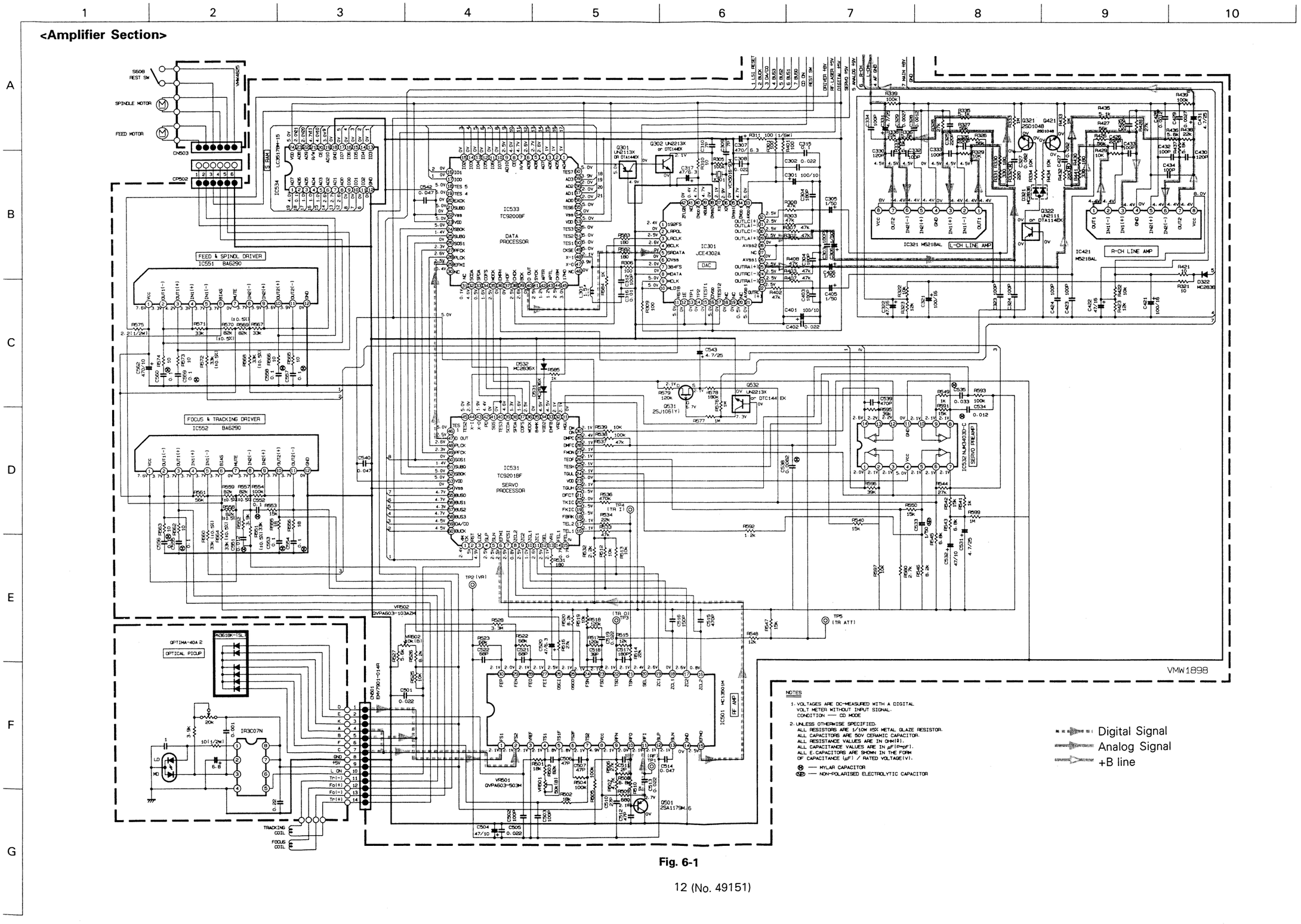

<Amplifier Section>
S508 REST SW
SPINDLE MOTOR
FEED MOTOR
CN503
CP502
IC534 LC35179M-15
IC533 TC9200BF DATA PROCESSOR
IC531 TC9201BF SERVO PROCESSOR
IC301 JCE4302A DAC
FEED & SPINDL DRIVER IC551 BA6290
FOCUS & TRACKING DRIVER IC552 BA6290
IC321 M5218AL L-CH LINE AMP
IC421 M5218AL R-CH LINE AMP
IC532 NJM4403F-C SERVO PREAMP
IC501 MC13501M RF AMP
OPTIMA-40A 2 OPTICAL PICUP
IR3C07N
TRACKING COIL
FOCUS COIL
VMW1898
NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL. CONDITION — CD MODE
2. UNLESS OTHERWISE SPECIFIED. ALL RESISTORS ARE 1/10W ±5% METAL GLAZE RESISTOR. ALL CAPACITORS ARE 50V CERAMIC CAPACITOR. ALL RESISTANCE VALUES ARE IN OHM(Ω). ALL CAPACITANCE VALUES ARE IN μF(P=pF). ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF) / RATED VOLTAGE(V).
— MYLAR CAPACITOR
— NON-POLARISED ELECTROLYTIC CAPACITOR
Digital Signal
Analog Signal
+B line

Fig. 6-1

2SD1944(RS)	Q910.
2SA1179M. S	Q901.
2SD601A(RS)	Q904. Q914. Q915. Q916. Q919. Q922.
2SB1322(RS)	Q909.
2SB941(P. Q)	Q902.
2SD973(R. S)	Q906.
2SD1256(P. Q)	Q911.
UN2111X or DTA114EK	Q501. Q502. Q674. Q913. Q917. Q932.
UN2113X or DTA144EK	Q903. Q907. Q923
UN2211X or DTC114EK	Q920. Q921. Q931. Q671. Q912.
UN2213X or DTC144EK	Q906. Q918. Q930.
UN2214X	Q675. Q931

Analog Signal
+B line

Fig. 6-2

■ Location of P.C. Board and Parts List

1 2 3 4 5 6 7 8 9 10

A B C D E F G

■ Main P.C. Board

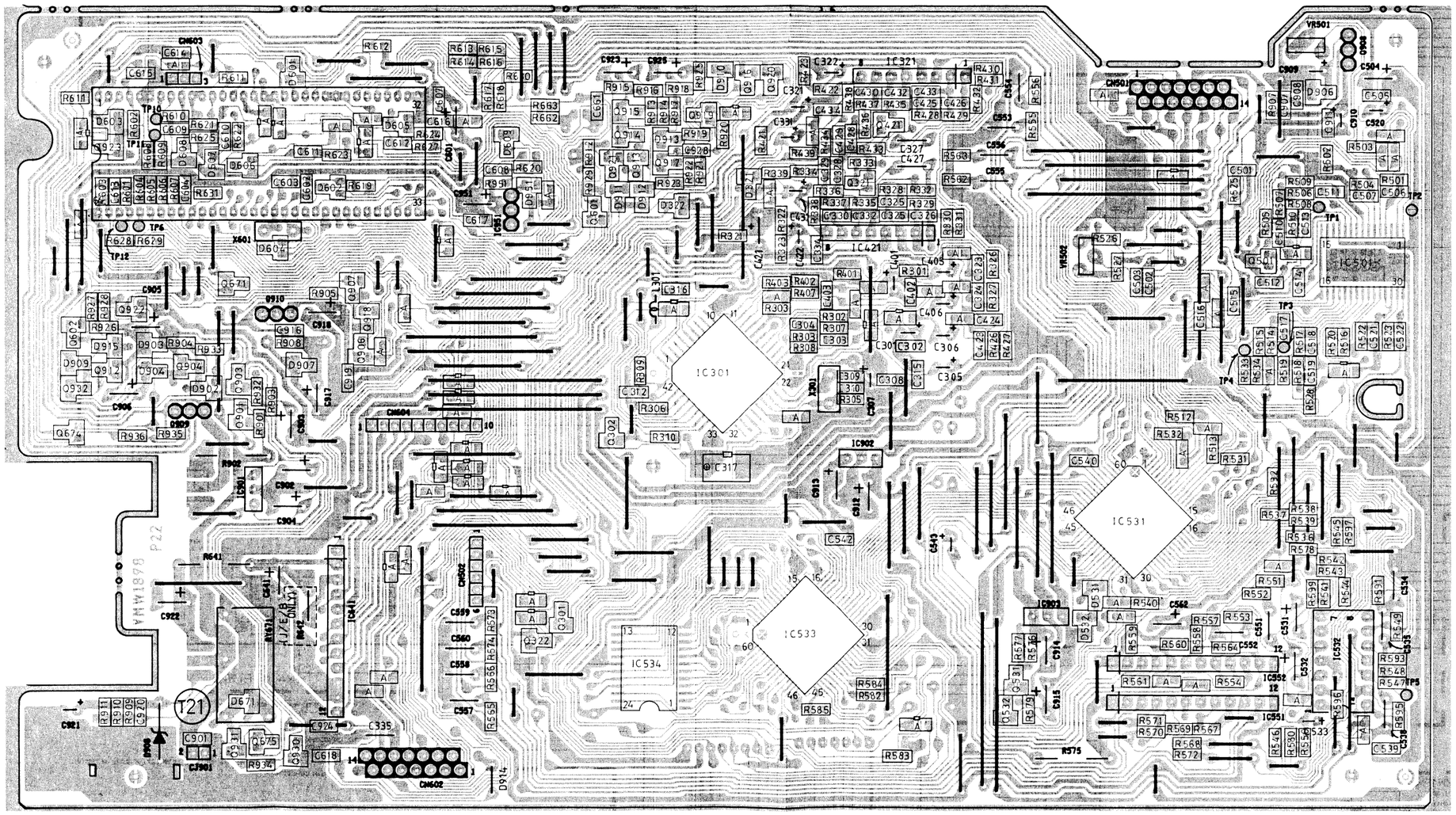


Fig. 6-3

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 301	QEKF1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 302	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 303	NCS21HJ-181AY	C CAPACITOR	180PF 5% 50V	
	C 304	NCS21HJ-181AY	C CAPACITOR	180PF 5% 50V	
	C 305	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 306	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 307	QEK40JM-227	E CAPACITOR	220MF 20% 6.3V	
	C 308	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 309	NCS21HD-7R0AY	C CAPACITOR	7.0PF 50V	
	C 310	NCS21HD-7R0AY	C CAPACITOR	7.0PF 50V	
	C 312	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 315	NCF21HZ-104AY	C CAPACITOR	.10MF +80:-20%	
	C 316	NCB21EK-103AY	C CAPACITOR	.010MF 10% 25V	
	C 317	QEF80JM-476X	TS E CAPACITOR	47MF 20% 6.3V	
	C 321	QEKF1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 322	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 323	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 324	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 325	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 326	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 327	QFV41HJ-823	TF CAPACITOR	.082MF 5% 50V	
	C 328	NCB21HK-122AY	C CAPACITOR	1200PF 10% 50V	
	C 329	NCB21HK-272AY	C CAPACITOR	2700PF 10% 50V	
	C 330	NCS21HJ-121AY	C CAPACITOR	120PF 5% 50V	
	C 331	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 332	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 333	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 334	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 335	QCVB1CN-103Y	C CAPACITOR	.010MF 30% 16V	
	C 401	QEKF1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 402	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 403	NCS21HJ-181AY	C CAPACITOR	180PF 5% 50V	
	C 404	NCS21HJ-181AY	C CAPACITOR	180PF 5% 50V	
	C 405	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 406	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 421	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 422	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 423	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 424	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 425	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 426	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 427	QFV41HJ-823	TF CAPACITOR	.082MF 5% 50V	
	C 428	NCB21HK-122AY	C CAPACITOR	1200PF 10% 50V	
	C 429	NCB21HK-272AY	C CAPACITOR	2700PF 10% 50V	
	C 430	NCS21HJ-121AY	C CAPACITOR	120PF 5% 50V	
	C 431	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 432	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 433	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 434	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 501	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 502	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 503	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 504	QETC1AM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 505	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 506	NCS21HJ-470AY	C CAPACITOR	47PF 5% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 507	NCS21HJ-470AY	C CAPACITOR	47PF 5% 50V	
	C 510	NCS21HJ-270AY	C CAPACITOR	27PF 5% 50V	
	C 511	NCS21HC-2R0AY	C CAPACITOR	2.0PF 50V	
	C 512	NCS21HJ-470AY	C CAPACITOR	47PF 5% 50V	
	C 513	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 514	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 515	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 516	NCS21HJ-151AY	C CAPACITOR	150PF 5% 50V	
	C 517	NCS21HJ-181AY	C CAPACITOR	180PF 5% 50V	
	C 518	NCS21HJ-390AY	C CAPACITOR	39PF 5% 50V	
	C 519	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 520	QERF0JM-476ZN	E CAPACITOR	47MF 20% 6.3V	
	C 521	NCS21HJ-680AY	C CAPACITOR	68PF 5% 50V	
	C 522	NCS21HJ-680AY	C CAPACITOR	68PF 5% 50V	
	C 531	QETC1EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 532	QETC1AM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 533	QEPJ1HM-105VM	E CAPACITOR	1.0MF 20% 50V	
	C 534	QFV41HJ-123	FILM CAPACITOR	.012MF 5% 50V	
	C 535	QFV41HJ-333	TF CAPACITOR	.033MF 5% 50V	
	C 538	QFN81HJ-822	M CAPACITOR	8200PF 5% 50V	
	C 539	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 540	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 542	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 543	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 551	QFV41HJ-123	TF CAPACITOR	.012MF 5% 50V	
	C 552	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 553	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 554	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 555	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 556	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 557	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 558	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 559	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 560	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 562	QETC1AM-477ZN	E CAPACITOR	470MF 20% 10V	
	C 601	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 602	NCT21CH-220AY	C CAPACITOR	22PF +50:-10% 1	
	C 603	NCT21CH-220AY	C CAPACITOR	22PF +50:-10% 1	
	C 604	NCB21EK-103AY	C CAPACITOR	.010MF 10% 25V	
	C 607	NCF21HZ-104AY	C CAPACITOR	.10MF +80:-20%	
	C 608	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 609	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 610	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 611	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 612	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 613	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 614	NCB21EK-103AY	C CAPACITOR	.010MF 10% 25V	
	C 615	NCB21EK-103AY	C CAPACITOR	.010MF 10% 25V	
	C 616	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 617	NCB21EK-103AY	C CAPACITOR	.010MF 10% 25V	
	C 618	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 641	QETC1AM-477ZN	E CAPACITOR	470MF 20% 10V	
	C 661	NCB21EK-103AY	C CAPACITOR	.010MF 10% 25V	
	C 901	NCF21HZ-104AY	C CAPACITOR	.10MF +80:-20%	
	C 902	QETC1HM-105ZN	E CAPACITOR	1.0MF 20% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 903	QETC1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 904	QETC1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 905	QETC1CM-106ZN	E CAPACITOR	10MF 20% 16V	
	C 906	QETC0JM-477ZN	E CAPACITOR	470MF 20% 6.3V	
	C 907	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 908	NCB21EK-223AY	C CAPACITOR	.022MF 10% 25V	
	C 909	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 910	QEKF1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 911	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 912	QETC1CM-106ZN	E CAPACITOR	10MF 20% 16V	
	C 913	QETC1AM-226ZN	E CAPACITOR	22MF 20% 10V	
	C 914	QETC1CM-106ZN	E CAPACITOR	10MF 20% 16V	
	C 915	QETC1AM-226ZN	E CAPACITOR	22MF 20% 10V	
	C 916	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 917	QETC1AM-336ZN	E CAPACITOR	33MF 20% 10V	
	C 918	QETC1AM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 919	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 920	NCB21EK-102AY	C CAPACITOR	1000PF 10% 25V	
	C 921	QER41CM-476M	E CAPACITOR	47MF 20% 16V	
	C 922	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 923	QETC1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 924	NCB21EK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 925	QETC1CM-107ZN	E CAPACITOR	100MF 20% 16V	
	C 928	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 951	QETC1AM-226ZN	E CAPACITOR	22MF 20% 10V	
	CN501	EMV7901-014R	CONNECTOR		
	CN602	EMV7901-014R	CONNECTOR		
	CN603	VMC0064-003	CONNECTOR		
	D 321	MC2836	SI DIODE		
	D 322	MC2836	SI DIODE		
	D 531	MC2836	DIODE		
	D 532	MC2836	DIODE		
	D 601	MC2836	DIODE		
	D 602	MC2838	DIODE		
	D 603	MC2836	DIODE		
	D 604	MC2836	DIODE		
	D 605	MC2836	DIODE		
	D 606	MC2836	DIODE		
	D 607	MC2836	DIODE		
	D 608	MC2836	DIODE		
	D 609	MC2836	DIODE		
	D 671	MC2836	DIODE		
	D 902	MC2838	SI DIODE		
	D 903	MA3062(M)	ZENER DIODE		
	D 904	MC2836	SI DIODE		
	D 906	MA3056	ZENER DIODE		
	D 907	MA3091(H)	ZENER DIODE		
	D 908	HZ11A	ZENER DIODE		
	D 909	MC2836	DIODE		
	D 910	MC2836	DIODE		
	D 911	MC2836	DIODE		
	D 912	MA3062(M)	ZENER DIODE		
	D 913	MC2838	DIODE		
	D 914	MA165	SI DIODE		
	D 915	MA3068(H)	ZENER DIODE		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	D 951	MC2836	DIODE		
	IC301	JCE4302A	IC	DAC	
	IC321	M5218AL	IC	L-LINE AMP.	
	IC421	M5218AL	IC	R-LINE AMP.	
	IC501	MC13501M	IC	RF AMP	
	IC531	TC9201BF	IC	SERVO PROCESSOR	
	IC532	NJM3403D-C	IC	SERVO PREAMP.	
	IC533	TC9200BF	IC	DATA PROCESSOR	
	IC551	BA6290	IC	FEED/SPINDL	
	IC552	BA6290	IC	FOCUS/TRACKING	
	IC601	UPD75112CW-160	IC	SYSTEM CONT.	
	IC641	M54549AL	IC	MECHA.DRIVE	
	IC901	UPC78L08J	IC	MAIN REGURATER	
	IC902	UPC78L05J	IC	DIGITAL REGU.	
	IC903	UPC78L05J	IC	SERVO REGURATER	
	IC951	MN1280(L)	IC	RESET	
	L 301	VQP025K-1R5Y	INDUCTOR		
	Q 321	2SD1048X-6HL	TRANSISTOR		
	Q 421	2SD1048X-6HL	TRANSISTOR		
	Q 501	2SA1179(M6M7)HL	TRANSISTOR		
	Q 531	2SJ106(Y)	FET		
	Q 675	UN2214X	TRANSISTOR		
	Q 901	2SA1179(M6M7)HL	TRANSISTOR		
	Q 902	2SB941(P,Q)	TRANSISTOR		
	Q 904	2SD601A(RS)	TRANSISTOR		
	Q 908	2SD973	TRANSISTOR		
	Q 909	2SB1322(RS)	TRANSISTOR		
	Q 910	2SD1994(R,S)	TRANRISTOR		
	Q 911	2SD1266(P,Q)	TRANSISTOR		
	Q 914	2SD601A(RS)	TRANSISTOR		
	Q 915	2SD601A(RS)	TRANSISTOR		
	Q 916	2SD601A(RS)	TRANSISTOR		
	Q 919	2SD601A(RS)	TRANSISTOR		
	Q 922	2SD601A(RS)	TRANSISTOR		
	Q 931	UN2214X	TRANSISTOR		
	R 301	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 302	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 303	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 305	NRSA02J-105NY	MG RESISTOR	1.0M 5% 1/10W	
	R 306	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 307	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 308	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 309	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 310	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 311	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 321	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 322	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 323	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 326	NRSA02J-563NY	MG RESISTOR	56K 5% 1/10W	
	R 327	NRSA02J-563NY	MG RESISTOR	56K 5% 1/10W	
	R 328	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 329	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 330	NRSA02J-181NY	MG REGISTOR	180 5% 1/10W	
	R 331	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 332	NRSA02J-221NY	MG RESISTOR	220 5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 333	NRSA02J-105NY	MG RESISTOR	1.0M 5% 1/10W	
	R 334	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 335	NRSA02J-512NY	MG RESISTOR	5.1K 5% 1/10W	
	R 336	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 337	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 338	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 339	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 401	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 402	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 403	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 407	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 408	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 421	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 422	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 423	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 426	NRSA02J-563NY	MG RESISTOR	56K 5% 1/10W	
	R 427	NRSA02J-563NY	MG RESISTOR	56K 5% 1/10W	
	R 428	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 429	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 430	NRSA02J-181NY	MG REGISTOR	180 5% 1/10W	
	R 431	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 432	NRSA02J-221NY	MG RESISTOR	220 5% 1/10W	
	R 433	NRSA02J-105NY	MG RESISTOR	1.0M 5% 1/10W	
	R 434	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 435	NRSA02J-512NY	MG RESISTOR	5.1K 5% 1/10W	
	R 436	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 437	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 438	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 439	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 501	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 502	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 503	NRVA62D-823NY	MG RESISTOR	82K	
	R 504	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 505	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 506	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 507	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 508	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 509	NRSA02J-681NY	MG RESISTOR	680 5% 1/10W	
	R 510	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 512	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 513	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 514	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 515	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 516	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 517	NRSA02J-124NY	MG RESISTOR	120K 5% 1/10W	
	R 518	NRSA02J-124NY	MG RESISTOR	120K 5% 1/10W	
	R 519	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 520	NRSA02J-822NY	MG RESISTOR	8.2K 5% 1/10W	
	R 522	NRSA02J-683NY	MG RESISTOR	68K 5% 1/10W	
	R 523	NRSA02J-683NY	MG RESISTOR	68K 5% 1/10W	
	R 525	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 526	NRSA02J-822NY	MG REAIATOR	8.2K 5% 1/10W	
	R 527	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 528	NRSA02J-335NY	MG RESISTOR	3.3M 5% 1/10W	
	R 531	NRSA02J-181NY	MG REGISTOR	180 5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 532	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 533	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 534	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 536	NRSA02J-474NY	MG RESISTOR	470K 5% 1/10W	
	R 537	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 538	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 539	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 540	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 541	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 542	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 543	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 544	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 545	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 546	NRSA02J-822NY	MG RESISTOR	8.2K 5% 1/10W	
	R 547	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 548	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 549	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 550	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 551	NRVA62D-333NY	MG RESISTOR	33K	
	R 552	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 553	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 554	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 555	NRSA02J-180NY	MG RESISTOR	18 5% 1/10W	
	R 556	NRSA02J-180NY	MG RESISTOR	18 5% 1/10W	
	R 557	NRVA62D-823NY	MG RESISTOR	82K	
	R 558	NRVA62D-823NY	MG RESISTOR	82K	
	R 559	NRVA62D-823NY	MG RESISTOR	82K	
	R 560	NRVA62D-333NY	MG RESISTOR	33K	
	R 561	NRSA02J-563NY	MG RESISTOR	56K 5% 1/10W	
	R 562	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 563	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 564	NRVA62D-333NY	MG RESISTOR	33K	
	R 565	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 566	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 567	NRVA62D-333NY	MG RESISTOR	33K	
	R 568	NRVA62D-333NY	MG RESISTOR	33K	
	R 569	NRVA62D-823NY	MG RESISTOR	82K	
	R 570	NRVA62D-823NY	MG RESISTOR	82K	
	R 571	NRVA62D-333NY	MG RESISTOR	33K	
	R 572	NRVA62D-333NY	MG RESISTOR	33K	
	R 573	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 574	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 575	QRD121J-2R2	CARBON RESISTOR	2.2 5% 1/2W	
	R 576	NRSA02J-105NY	MG RESISTOR	1.0M 5% 1/10W	
	R 577	NRSA02J-105NY	MG RESISTOR	1.0M 5% 1/10W	
	R 578	NRSA02J-184NY	MG RESISTOR	180K 5% 1/10W	
	R 579	NRSA02J-124NY	MG RESISTOR	120K 5% 1/10W	
	R 580	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 582	NRSA02J-181NY	MG REGISTOR	180 5% 1/10W	
	R 583	NRSA02J-181NY	MG REGISTOR	180 5% 1/10W	
	R 584	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 585	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 591	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 592	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 593	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 595	NRSA02J-393NY	MG RESISTOR	39K 5% 1/10W	
	R 596	NRSA02J-393NY	MG RESISTOR	39K 5% 1/10W	
	R 597	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 599	NRSA02J-105NY	MG RESISTOR	1.0M 5% 1/10W	
	R 601	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 602	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 603	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 604	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 605	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 606	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 607	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 608	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 609	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 610	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 611	NRSA02J-104NYM	MG RESISTOR	100K 5% 1/10W	
	R 612	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 613	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 614	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 615	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 616	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 617	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 618	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 619	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 620	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 621	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 622	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 623	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 624	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 625	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 627	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 628	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 629	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 630	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 631	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 641	QRD121J-2R2	CARBON RESISTOR	2.2 5% 1/2W	
	R 642	QRD121J-100	CARBON RESISTOR	10 5% 1/2W	
	R 663	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 901	NRSA02J-220NY	MG RESISTOR	22 5% 1/10W	
	R 902	QRX019J-R47A	MF RESISTOR	5% 1/1W	
	R 903	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 904	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 905	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 907	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 908	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 909	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 910	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 911	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 912	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 913	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 914	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 915	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 916	NRVA62D-333NY	MG RESISTOR	33K	
	R 917	NRSA02J-563NY	MG RESISTOR	56K 5% 1/10W	
	R 918	NRSA02J-220NY	MG RESISTOR	22 5% 1/10W	
	R 919	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 920	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 921	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 922	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 923	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 925	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 926	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 927	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 928	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 929	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 932	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 933	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 934	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 935	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 936	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 951	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	RY671	VSK1D12-116T	RELAY		
	VR501	QVPA603-503	SEMI.V.RESISTOR		
	VR502	QVPA603-103M	SEMI.V.RESISITO		
	X 301	VCX5016-934V	CRYSTAL		
	X 601	CSA4.00MG	CERA LOCK		

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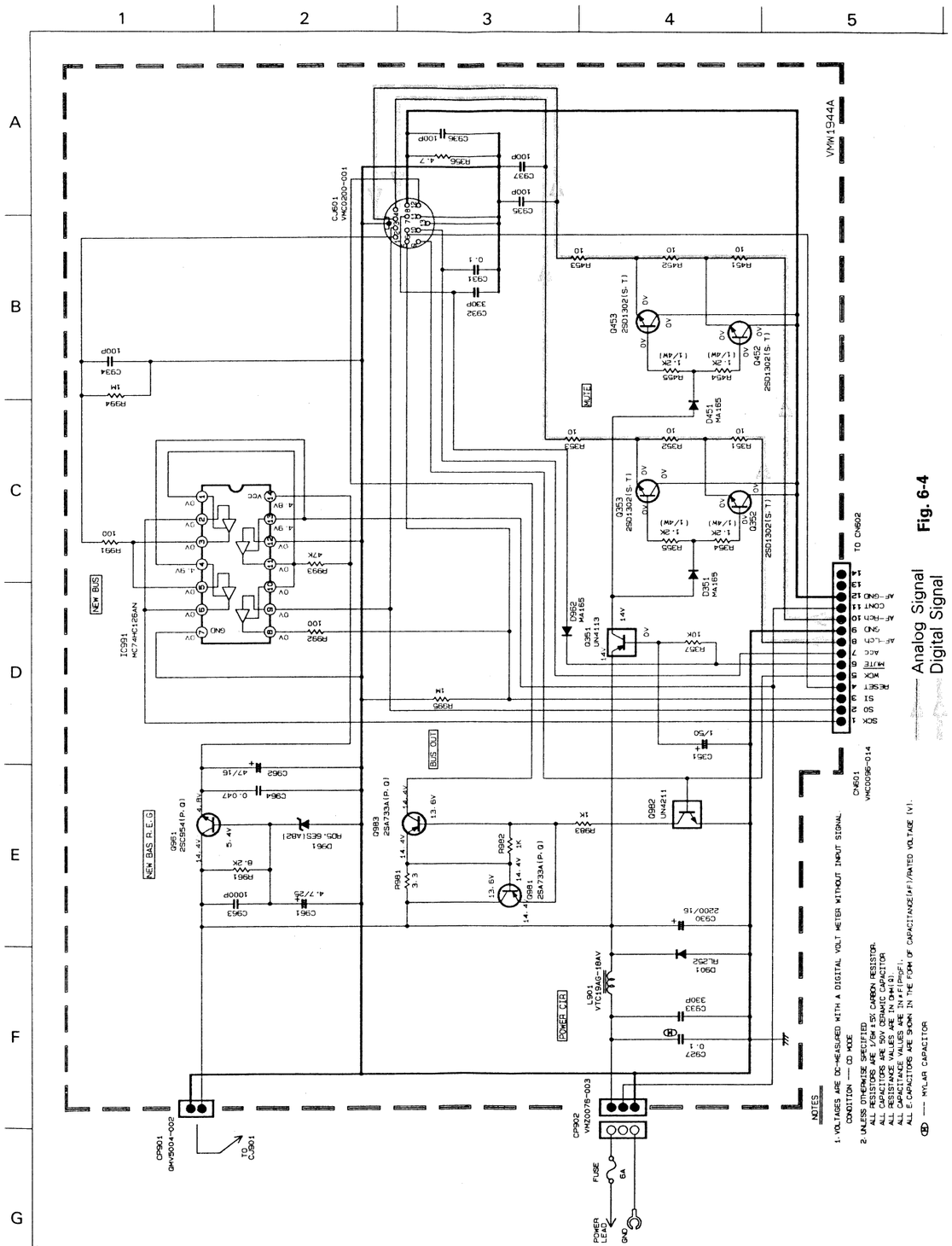


Fig. 6-4

■ Connector Board

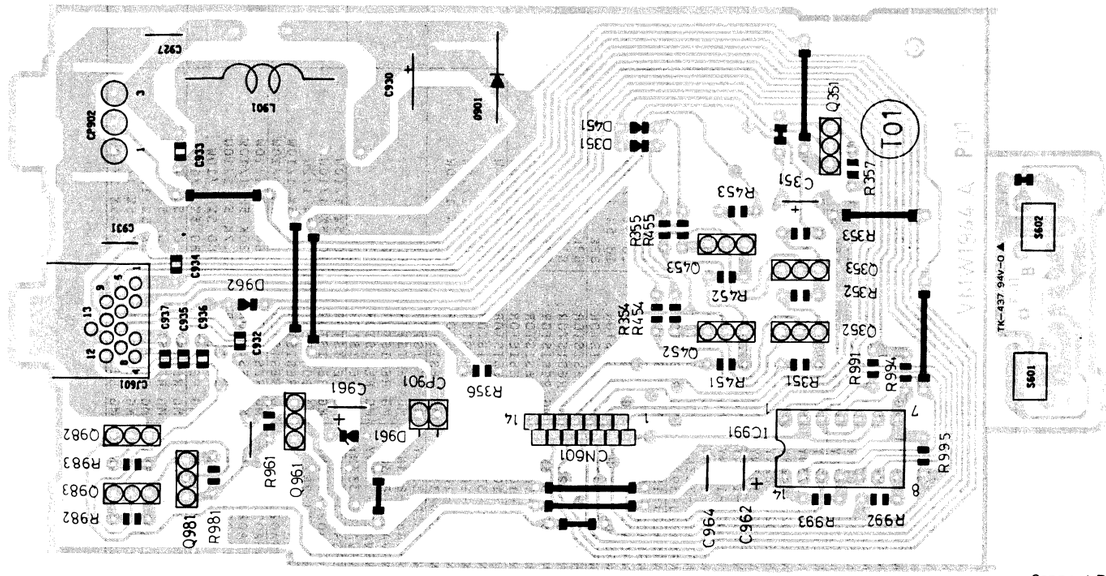
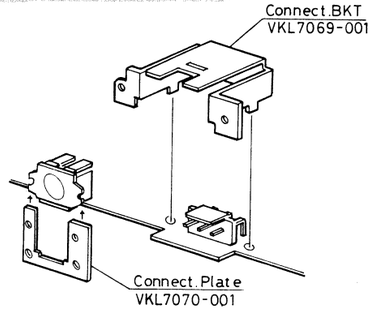


Fig. 6-5



● Connector Board Parts List

BLOCK NO 02

△	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 351	QETC1HM-1057N	E CAPACITOR	1.0MF 20% 50V	
	C 927	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C 930	QET41CR-228	E CAPACITOR	2200MF +30!-10%	
	C 931	QCC11EM-104V	C CAPACITOR	.10MF 20% 25V	
	C 932	QCBB1HK-331Y	C CAPACITOR	330PF 10% 50V	
	C 933	QCBB1HK-331Y	C CAPACITOR	330PF 10% 50V	
	C 934	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 935	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 936	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 937	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 961	QETC1EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 962	QETC1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 963	QCY41HK-102	C CAPACITOR	1000PF 10% 50V	
	C 964	QCC11EM-473V	C CAPACITOR	.047MF 20% 25V	
	CJ601	VMC0200-001	13P CONNECTOR		
	CN601	VMC0096-014	CONNECTOR		
	CP901	QMV5004-002	CONNECTOR		
	CP902	VMZ0076-003	CONNECTOR		
	D 351	MA165	SI DIODE		
	D 451	MA165	SI DIODE		
	D 901	RL252	S DIODE		
	D 961	RD5.6ES(AB2)	Z DIODE		
	D 962	MA165	SI DIODE		
	IC991	MC74HC126AN	IC	NEW BUS	
	L 901	VTC19AG-18AV	CHOKE COIL		
	Q 351	UN4113	TRANSISTOR		
	Q 352	2SD1302(S,T)	TRANSISTOR		
	Q 353	2SD1302(S,T)	TRANSISTOR		
	Q 452	2SD1302(S,T)	TRANSISTOR		
	Q 453	2SD1302(S,T)	TRANSISTOR		
	Q 961	2SC945(P,Q)	TRANSISTOR		
	Q 981	2SA733A(P,Q)	TRANSISTOR		
	Q 982	UN4211	TRANSISTOR		
	Q 983	2SA733A(P,Q)	TRANSISTOR		
	R 351	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 352	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 353	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 354	QRD14AJ-122Y	C RESISTOR	1.2K 5% 1/4W	
	R 355	QRD14AJ-122Y	C RESISTOR	1.2K 5% 1/4W	
	R 356	QRD167J-4R7	CARBON RESISTOR	4.7 5% 1/6W	
	R 357	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 451	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 452	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 453	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
	R 454	QRD14AJ-122Y	C RESISTOR	1.2K 5% 1/4W	
	R 455	QRD14AJ-122Y	C RESISTOR	1.2K 5% 1/4W	
	R 961	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R 981	QRD161J-3R3	CARBON RESISTOR	3.3 5% 1/6W	
	R 982	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 983	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 991	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 992	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 993	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 994	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R 995	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	S 601	QSP4H11-V03	TACT SWITCH	RESET	
	S 602	QSP4H11-V03	TACT SWITCH	MAGAZIN EJECT	

● Switch Board Parts List

REF	PARTS NO.	PARTS NAME	QTY
S603-S607	VSH1153-001	SWITCH	5
CN605	VMC0064-010	CONNECTOR	1

● Mecha Board Parts List

REF	PARTS NO.	PARTS NAME	QTY
S608	VSH1153-001	SWITCH (RESET)	1
CN503	VMC0064-006	CONNECTOR	1

7 Wiring Connection

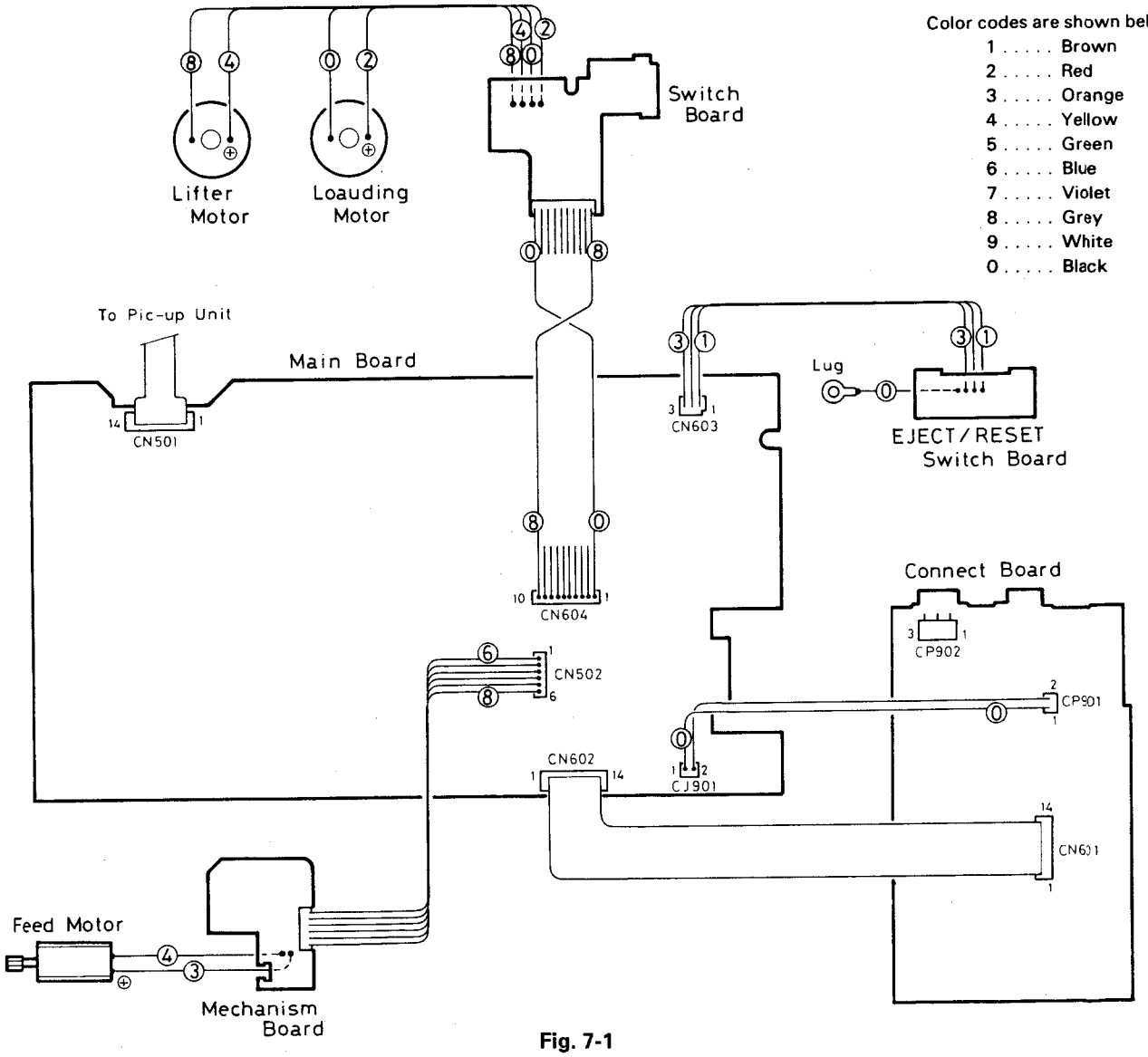


Fig. 7-1

■ Switch Board

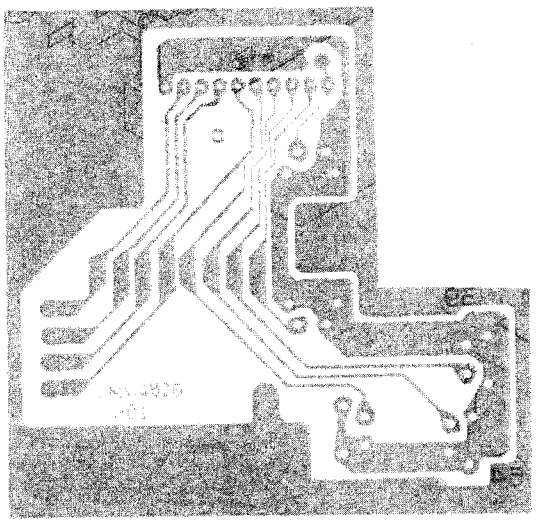


Fig. 6-6

■ Mecha Board

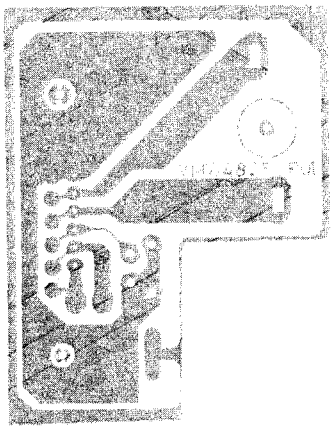


Fig. 6-7

8 Exploded View of Enclosure

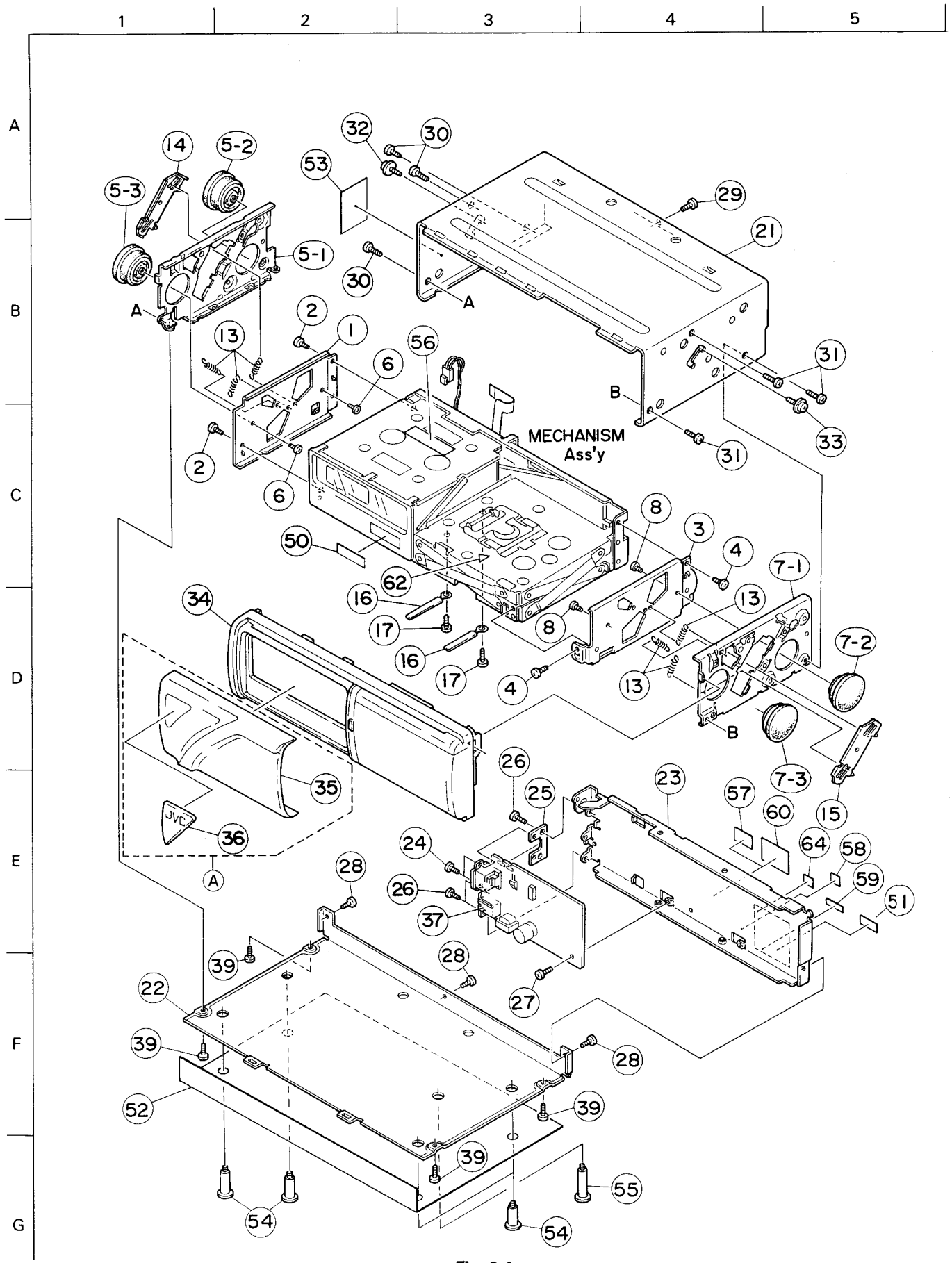


Fig. 8-1

● Enclosure Component Parts List

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCXLMK500K-DOOR	DOOR ASS'Y		1		
	1	VKM3484-001	MECHA BRACKET		1		
	2	SDST2604Z	SCREW	MECHANISM BRACK	2		
	3	VKM3485-001	MECHA BRACKET	RIGHT SIDE	1		
	4	SDST2604Z	SCREW	MECHANISM BRACK	2		
	6	SDSP2004Z	SCREW	SUSPENSION	2		
	8	SDSP2004Z	SCREW	SUSPENSION	2		
	13	VKW4948-001	TENSION SPRING		3		
		VKW4948-001	TENSION SPRING		3		
	14	VKL7013-001	SLIDE LEVER(L)		1		
	15	VKL7025-001	SLIDE LEVER(R)		1		
	16	VKZ4001-009	WIRE HOLDER		2		
	17	SDST2604Z	SCREW		2		
	21	VJC1986-003	TOP COVER		1		
	22	VJC1987-001	BOTTOM COVER		1		
	23	VJC2420-003	REAR PANEL		1		
	24	SDST3006M	SCREW	13PIN+REAR	2		
	25	VKL7070-001	CONNECT.PLATE		1		
	26	SDST3006M	SCREW	2PIN+REAR	3		
	27	SDST3006M	SCREW	CONNECT BOARD	1		
	28	SDSP3004M	SCREW	REARR+BOTTOM	3		
	29	SDSP3004M	SCREW	REAR+TOP	1		
	30	SDSP3004M	SCREW	TOP+SIDE L	3		
	31	SDSP3004M	SCREW	TOP+SIDE R	3		
	32	DPSP3006Z	SCREW	TOP+SIDE L	1		
	33	DPSP3006Z	SCREW	TOP+SIDE R	1		
	34	VJG1095-001	FRONT PANEL		1		
	35	VJT2300-001	DOOR		1		
	36	VJK3584-001	BADGE		1		
	37	VKL7069-001	CONNECT.BRACKET	FOR CONNECTOR	1		
	39	SDSP3004M	SCREW	BOTTOM+SIDE L&R	4		
	50	VND4394-003	CAUTION LABEL	FOR MAGAGIN	1		
	51	VPZ4011-001	SERIAL LABEL		1		
	52	VND2008-003	CAUTION SHEET	FOR TRANSFER	1		
	53	VND4407-002	CAUTION LABEL	M5X6MM	1		
	54	VKZ4622-001	SPECIAL SCREW	FOR TRANSFER	4		
	55	VKZ4622-002	SPECIAL SCREW	FOR TRANSFER	1		
	56	VND4220-001	LASER CAUTION		1	B,E,G,GI,GE	
	57	VND4221-001	CLASS 1 LABEL		1	B,E,G,GI,GE	
	58	E70030-001	APPROVAL LABEL		1	E	
	59	VND4393-001	NO.LABEL		1	GI	
	60	VND4922-001	CAUTION LABEL		1	J	
	62	E71541-001	E.I.LASER MARK		1	B,E,G,GI,GE	
	64	VND4392-001	CAUTION LABEL		1	G,GE	
	5-1	VKL2587-001	SIDE BRACKET	LEFT SIDE	1		
	5-2	VYH7433-001	SUSPENSION	YELLOW MARK(REA	1		
	5-3	VYH7433-002	SUSPENSION	BLUE MARK (FRON	1		
	7-1	VKL2588-001	SIDE BRACKET	RIGHT SIDE	1		
	7-2	VYH7433-001	SUSPENSION	YELLOW MARK(REA	1		
	7-3	VYH7433-002	SUSPENSION	BLUE MARK FRONT	1		

9 Exploded View of Mechanism Component Parts

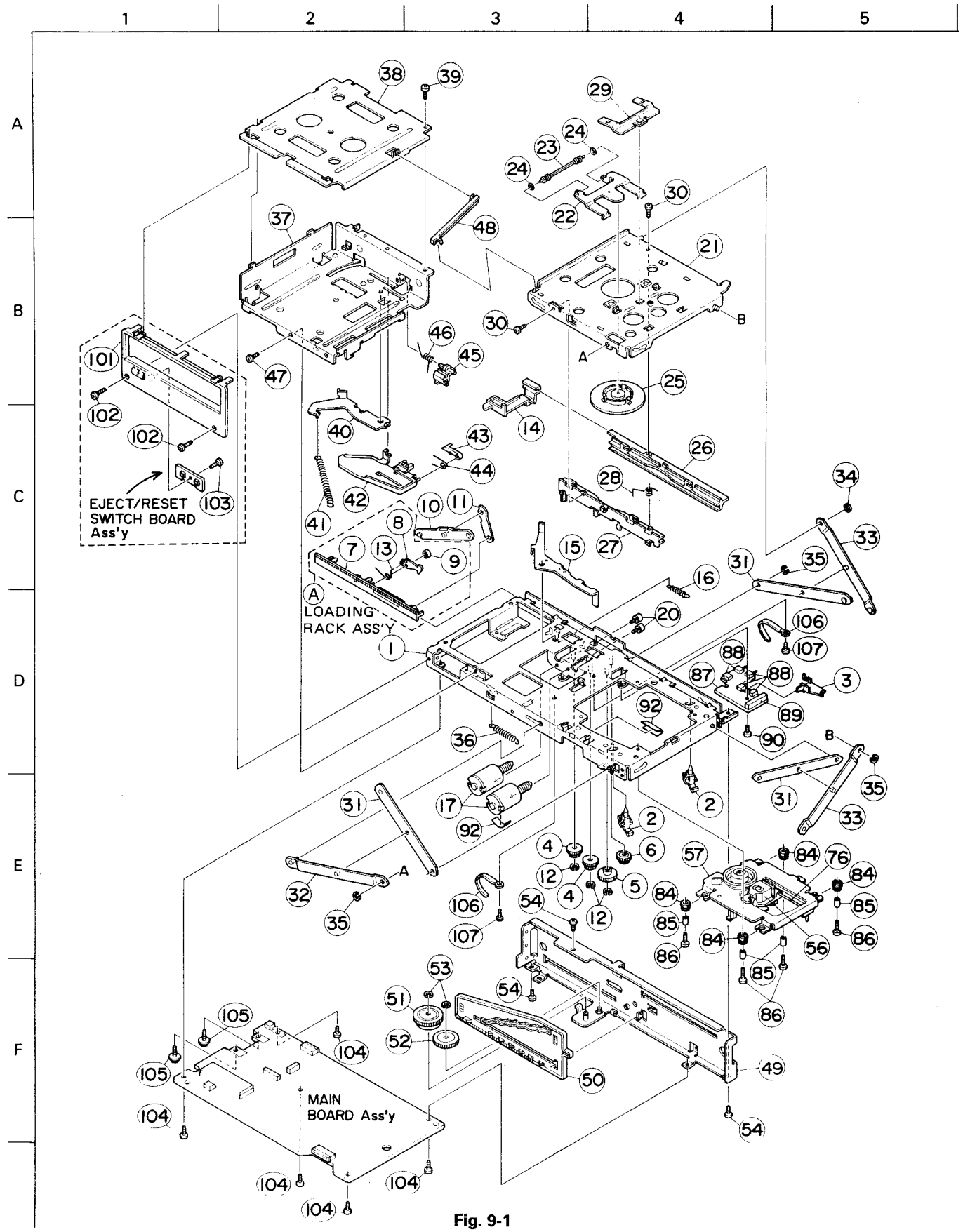


Fig. 9-1

■ CD Mechanism Section

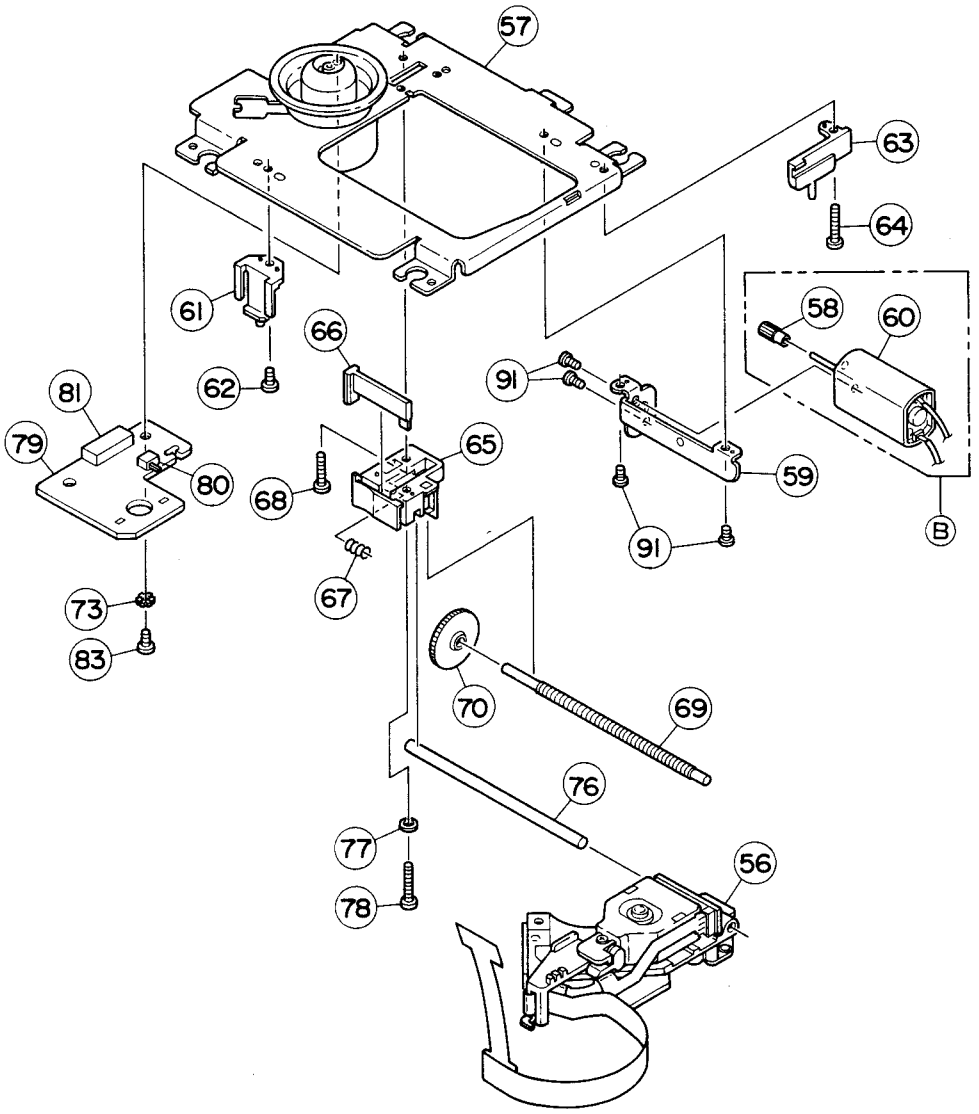


Fig. 9-2

● Mechanism Component Parts List

BLOCK NO. M2MM[ ][ ][ ]

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCXLMG600J-RACK	LOADING RACK	COMMONS PARTS	1		
	B	PPN13KA10C-SA3	DC MOTOR ASS'Y	FEED MOTOR	1		
	1	VKL1338-003	MECHA CHASSIS		1		
	2	VKS5342-001	TRAY GUIDE STUD		2		
	3	VKS5343-001	LOADING.ACTUATO		1		
	4	VKS5344-002	DRIVING GEAR		2		
	5	VKS5345-001	JOINT GEAR		1		
	6	VKS5346-001	LOADING GEAR		1		
	7	VKS2214-001	LOADING RACK		1		
	8	VKL7014-001	EJECT ACTUATOR		1		
	9	VKS4972-001	COLLAR	EJECT ACTUATOR	1		
	10	VKL7015-001	LOADING ARM(1)		1		
	11	VKL7016-001	LOADING ARM(2)		1		
	12	WDM266050	SLIT WASHER	DRIVING/JOINT G	3		
	13	VKW4965-002	TORSION SPRING	FOR EJECT ACT.	1		
	14	VKS3515-002	HOOK		1		
	15	VKM3492-003	SWITCH ACTUATOR		1		
	16	VKW5011-001	TENSION SPRING	FOR SWITCH ACT.	1		
	17	MXN13FB12F-SA3	DC MOTOR ASS'Y	ASS'Y PARTS	2		
	20	LPSP3004Z	SCREW	LOARDING/LIFT M	2		
	21	VKL2589-00C	LIFTER ASS'Y		1		
	22	VKM3493-00B	D.STOPPER ASSY		1		
	23	VKS5223-001	STOP ROLLER		1		
	24	VKZ4563-002	O-RING	STOP ROLLER	2		
	25	VKS3516-00B	CLAMPER ASS'Y		1		
	26	VKS3517-002	RAIL (L)		1		
	27	VKS2215-002	RAIL (R)		1		
	28	VKW4949-004	TORSION SPRING	RAIL R	1		
	29	VKY4633-001	THRUST SPRING		1		
	30	SDSF2005Z	SCREW	RAIL	2		
	31	VKL7017-00A	LIFT ARM(1)ASSY		3		
	32	VKL7019-00A	LIFT ARM(2)ASSY		1		
	33	VKL7028-00A	LIFT ARM(3) ASY		2		
	34	REE2000X	E.WASHER	FOR GUIDE PIN	1		
	35	WDM266050	SLIT WASHER	FOR G.SHAFT	3		
	36	VKW4010-023	TENSION SPRING	FOR LIFT ARM	1		
	37	VKL2591-003	MAGAZINE HOLDER		1		
	38	VKM3495-001	TOP COVER		1		
	39	SDST2005Z	SCREW	TOP COVER	1		
	40	VKM3496-002	EJECT LEVER		1		
	41	VKW4010-022	TENSION SPRING	EJECT LEVER	1		
	42	VKS3519-002	EJECT SLIDER		1		
	43	VKS5347-001	EJECT ARM		1		
	44	VKW4030-008	TORSION SPRING	EJECT ARM	1		
	45	VKS5348-002	LOCK LEVER		1		
	46	VKW4030-009	TORSION SPRING	LOCK LEVER	1		
	47	SDST2005Z	SCREW	MAGAZIN HOLDER	1		
	48	VKS3522-001	PROTECT LEVER		1		
	49	VKL2592-00B	S.CHASSIS ASS'Y		1		
	50	VJS3520-001	SLIDE CAM		1		
	51	VKS5350-001	UP DOWN GEAR		1		
	52	VKS5345-001	JOINT GEAR		1		
	53	WDM266050	SLIT WASHER	UP-DOWN/JOINT G	2		
	54	SDST2005Z	SCREW	REAR PANEL	3		

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
⚠	56	VDL3313-001MP	P.U.UNIT		1		
	57	VKL2594-00D	MECHA BASE UNIT		1		
	58	VKS5233-001	FEED MOTOR GEAR		1		
	59	VKM3262-003	F.M.BRACKET		1		
	60	PPN-13KA10C	MOTOR	FOR FEED	1		
	61	VKS5229-001	PCB.HOLDER		1		
	62	SDST2005Z	SCREW	PCB HOLDER	1		
	63	VKS3429-001	SHAFT STOPPER		1		
	64	SDSR2011Z	SCREW	SHAFT STOPER	1		
	65	VKS3431-001	SHAFT HOLDER		1		
	66	VKS5232-002	REST ACT.		1		
	67	VKW4020-003	COMP.SPRING		1		
	68	SDSR2011Z	SCREW	SHAFT HOLDER	1		
	69	VKZ4560-001	SCREW SHAFT		1		
	70	VKR4558-001	S.SHAFT GEAR		1		
	73	WBS2000N	T. LOCK WASHER		1		
	76	VKH3012-066	SHAFT(E)		1		
	77	WNS2000N	WASHER	SHAFT	1		
	78	SDSR2011Z	SCREW	SHAFT	1		
	79	VMW4825-002	PC BOARD		1		
	80	VSH1153-001	SWITCH	RESET	1		
	81	VMC0064-006	CONNECTOR		1		
	83	SDST2005Z	SCREW	PC BOARD	1		
	84	VKZ4570-001	DAMPER		4		
	85	VKZ4571-001	COLLAR	DAMPER	4		
	86	VKZ4345-004	SPECIAL SCREW	DAMPER	4		
	87	VMW4826-002	PC BOARD		1		
	88	VSH1153-001	SWITCH		5		
	89	VMC0064-010	CONNECTOR		1		
	90	SDST2005Z	SCREW	PC BOARD	1		
	91	SPSK2025M	MINI SCREW	FEED MOTOR	4		
	92	VYSA1R4-056	SPACER	FOR MOTOR	2		
	93	VKZ4581-003	SPACER	LIFTER ASS'Y	1		
	101	VJD3872-004	INNER PANEL		1		
	102	SDST2004M	SCREW	M.CHS+INNER PAN	2		
	103	SDSF2006Z	SCREW	I.PANEL+SW PWB	1		
	104	SDST2604Z	SCREW	MAIN PWB+MECHA	5		
	105	DPSP2608Z	SCREW	TR+MECHA	2		
	106	VKZ4001-009	WIRE CLAMP		2		
	107	SDST2604Z	SCREW		2		

10 Packing

• Packing Parts List

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	XLMG600K-SCREW	SCREW PARTS KIT	FOR A17-A20	1		
	A 1	VNN3385-451	INSTRUCTIONS	SWEDEN	1	E	
		VNN3385-211	INSTRUCTIONS		1	B,E,G,GE	
		VNN3385-451	INSTRUCTIONS	HOLLAND/SPAIN	1	E	
		VNN3385-471	INSTRUCTIONS	ITALY	1	GI	
		VNN3385-481	INSTRUCTIONS	FINLAND	1	E	
		VNN3385-631	INSTRUCTIONS		1	A,C,J,U	
	A 2	BT-20025K	WARRANTY CARD		1	C	
		BT-20059D	WARRANTY CARD		1	J	
		BT-20066A	WARRANTY CARD		1	B	
		BT-20114	WARRANTY CARD		1	G	
		BT-20122	WARRANTY CARD		1	A	
		BT20060	WARRANTY CARD		1	B	
	A 3	BT-20122-1-A	WARRANTY CARD		1	A	
	A 4	E43486-340B	SAFETY INST.SHE		1	B	
	A 5	BT20071A	JVC CENTER LIST		1	C	
	A 6	PU36158	FTZ INF.SHEET		1	G	
	A 7	BT-20108A	SERVICE NETWERK		1	J	
	A 8	VYA3001-00E	MAGAZINE ASS'Y		1		
	A 13	VKM3489-001A	MOUNT BASE ASSY	MOUNT BASE+BOLT	2		
	A 14	VKS3514-001	MOUNT HOLDER		2		
	A 15	VYSH103-067	SPACER	FOR MOUNT BASE	2		
	A 16	VYTS499-001	SEAL		1		
	A 17	SDSP5006Z	SCREW		4		
	A 18	VKZ4328-001	LOCK NUT	M5	4		
	A 19	WNS5000Z	WASHER		4		
	A 20	VKZ4029-003	SCREW	M6 X 12	4		
	A 21	VMP3230-001	13-8PIN DINCORD		1		
	A 23	VMC0014-045	POWER CORD		1	C,J,U	
		VMC0014-045	POWER CORD		1	B,G,A,GI,GE	
		VMC0014-069	POWER CORD		1	E	
	A 24	QMF61G3-6R3J1	FUSE		1	E	
	P 1	VPC3385-002	CARTON		1		
	P 2	VPH1583-001	CUSHION(U)		1		
	P 3	VPH1584-001	CUSHION(L)		1		
	P 4	VPK4231-011	SPACER		1		
	P 5	VPE3005-063	POLY BAG	FOR UNIT	1		
	P 7	VND3044-001	SIRIAL TICKET		1	A,GE,GI,U	
		VND3044-003	SERIAL TICKET		1	E	
		VND3044-004	SIRIAL TICKET		1	B	
		VND3044-005	SERIAL TICKET		1	G	
		VND3044-006	SERIAL TICKET		2	C,J	
	P 8	QPGA017-02505	POLY BAG		1		
	P 9	QPGA017-02505	POLY BAG	MOUNTBRCKET+SPA	1		
	P 10	QPGA008-01205	POLY BAG	SCREW SA	1		
	P 12	VND3071-049	EAN CODE LABEL	A/B/E/G/GE/GI/U	1	A,B,E,G,GE,G	
		VND3072-042	UPC CODE LABEL	C/J VERSION	1	C,J	

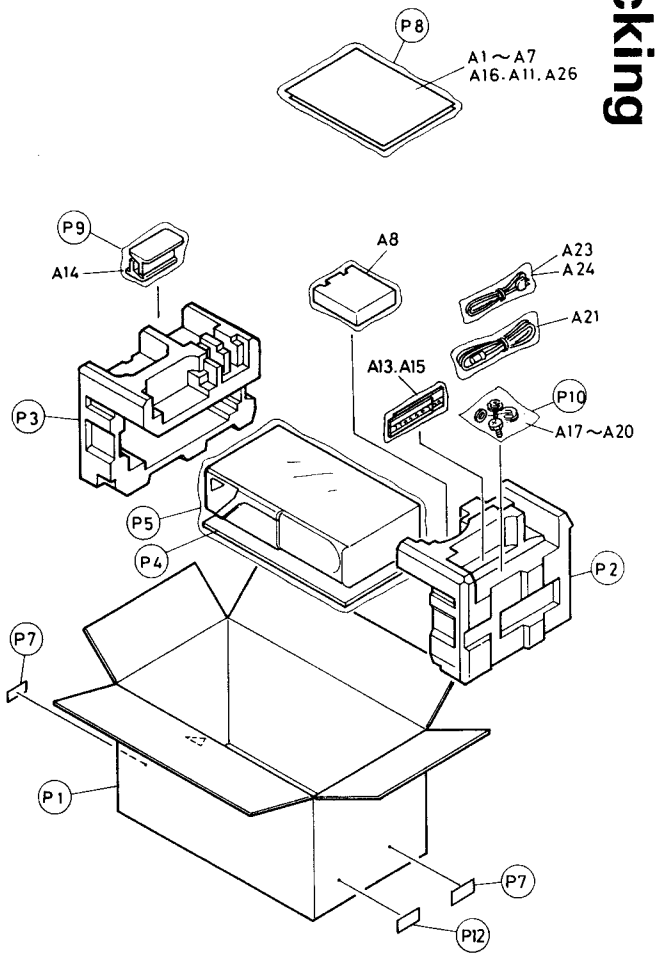


Fig. 10-1

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